

# CALIFORNIA HIGH-SPEED TRAIN

## Palmdale to Los Angeles Supplemental Alternatives Analysis Report

May 2014



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## **California High-Speed Rail Project**



**Palmdale – Los Angeles**

# **SUPPLEMENTAL ALTERNATIVES ANALYSIS REPORT**

**May 2014**

## **TABLE OF CONTENTS**

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1      INTRODUCTION.....</b>	<b>5</b>
1.1 Identification of Alternatives to be Carried Forward	5
1.2 Background and Description of Alternatives; Conclusions of this SAA	5
1.3 Alternatives Development Process	7
1.4 Meeting Project Purpose and Need	9
1.5 Evaluation Measures and Comparison of Alternatives	11
1.6 Community Outreach	15
1.7 Previously Identified Alternative Alignments – Background	25
<b>2      PALMDALE SUBSECTION .....</b>	<b>29</b>
2.1 Description of Station Options	34
2.2 Description of Alignment Alternatives	34
2.3 Evaluation of Alignment Alternatives and Station Options	36
<b>3      SANTA CLARITA SUBSECTION.....</b>	<b>37</b>
<b>4      SAN FERNANDO VALLEY SUBSECTION.....</b>	<b>39</b>
4.1 Description of Station Options	40
4.2 Evaluation of Station Options	43
<b>5      LOS ANGELES SUBSECTION.....</b>	<b>48</b>
<b>6      SEPARATE SECTIONS (PALMDALE TO BURBANK, BURBANK TO LOS ANGELES) WITH SEPARATE ENVIRONMENTAL DOCUMENTATION .....</b>	<b>49</b>
6.1 Station-to-Station Alternatives	50
<b>7      RECOMMENDATION.....</b>	<b>51</b>

**APPENDIX A – Detailed Evaluation Tables**

**APPENDIX B – Outreach Meetings**

## **TABLES**

Table 1-1	HSR AA Evaluation Measures .....	12
Table 1-2	Summary of Palmdale to Los Angeles Key Stakeholder Outreach Meetings (April 2012 – December 2013) .....	15
Table 1-3	Palmdale to Los Angeles Corridor Alignment Alternatives and Station Options .....	28
Table 7-1	Alternatives Evaluation Summary .....	53
Table 7-2	Summary of Goals and Objectives Met by Each Alternative .....	57

## **FIGURES**

Figure ES-1	Alignment and Station Alternatives Studied in this SAA.....	4
Figure 1-1	SAA Study Area Boundaries and Subsections .....	6
Figure 1-2	Previous Los Angeles to Palmdale Subsections .....	26
Figure 1-3	Previously Identified Alignments and Stations in the April 2012 SAA.....	27
Figure 2-1	High Desert Corridor (in Los Angeles County) .....	30
Figure 2-2	Palmdale Transit Village Specific Plan .....	32
Figure 2-3	Palmdale West and Palmdale Transportation Center Station Locations.....	33
Figure 2-4	Palmdale Subsection Alignment Alternatives .....	34
Figure 3-1	Santa Clarita Subsection Alignment Alternatives.....	39
Figure 4-1	San Fernando Station Location.....	41
Figure 4-2	Branford Street Station Location .....	42
Figure 4-3	Burbank Airport Station Location.....	43
Figure 4-4	linkBurbank Study Area .....	47
Figure 5-1	Los Angeles Subsection Alignment Alternatives .....	49
Figure 7-1	Alignment Alternatives and Station Locations Carried Forward .....	52

## ABBREVIATIONS / ACRONYMS

- AA.....Alternatives Analysis  
Amtrak .....National Railroad Passenger Corporation  
Authority .....California High-Speed Rail Authority  
BtOB.....Bay-to-Basin  
Caltrans.....California Department of Transportation  
CHRIS .....California Historic Resources Information System  
CHST .....California High-Speed Train  
CMF .....Central Maintenance Facility  
EIR .....Environmental Impact Report  
EIS.....Environmental Impact Statement  
FRA.....Federal Railroad Administration  
FY .....Fiscal Year  
GIS .....Geographic Information System  
HDC.....High Desert Corridor  
HSR .....High-Speed Rail  
HST .....High-Speed Train  
I- .....Interstate  
IOS .....Initial Operating Section  
JPA .....Joint Powers Authority  
LA/A.....Los Angeles to Anaheim  
LADOT .....City of Los Angeles, Department of Transportation  
LADWP .....Los Angeles Department of Water and Power  
LAHSP .....Los Angeles Historic State Park  
LA River .....Los Angeles River  
LAUS.....Los Angeles Union Station  
LOS.....Level of Service  
Metro .....Los Angeles County Metropolitan Transportation Authority  
MPH.....Miles per Hour  
NEPA.....National Environmental Policy Act  
PAA.....Preliminary Alternatives Analysis  
P-LA.....Palmdale to Los Angeles  
PMT .....Program Management Team  
PTC.....Palmdale Transportation Center  
RITC .....Regional Intermodal Transportation Center  
ROW .....Right-of-Way  
SAA.....Supplemental Alternatives Analysis  
SANBAG .....San Bernardino Associated Governments  
SCAG .....Southern California Association of Governments  
SCRRRA.....Southern California Regional Rail Authority (Metrolink)  
SFV .....San Fernando Valley

SR.....State Route  
SWRCB.....State Water Resources Control Board  
TDM.....Transportation Demand Management  
TM.....Technical Memorandum  
TSM .....Transportation Systems Management  
TSMF .....Terminal Storage and Maintenance Facility  
TOD .....Transit-Oriented Development  
UPRR .....Union Pacific Railroad  
USACE.....United States Army Corps of Engineers  
USEPA.....United States Environmental Protection Agency  
USFWS .....United States Fish and Wildlife Service

## EXECUTIVE SUMMARY

### ES.1 Palmdale to Los Angeles Section High-Speed Rail Project

The Palmdale to Los Angeles (P-LA) High-Speed Rail (HSR) project section is approximately 60 miles long, and extends through a variety of land uses including rural, urban, densely populated cities, and mountainous terrain. The corridor for this section starts in Palmdale along an existing rail corridor, travels south and southwest on its own new route through the mountains past Santa Clarita, and into the San Fernando Valley. Here it rejoins the corridor of the existing Metrolink Antelope Valley line through the San Fernando Valley and terminates at Los Angeles Union Station (LAUS). Within the corridor between Sylmar and LAUS, the Los Angeles County Metropolitan Transportation Authority (Metro) owns the rail right-of-way, the Southern California Regional Rail Authority (SCRRA) owns the track and operates the Metrolink commuter rail service, Amtrak provides intercity passenger service, and the Union Pacific Railroad (UPRR) holds track access rights and operates freight trains.

In 2007 the statewide HSR system was divided into geographic project sections, like Palmdale to Los Angeles, that are smaller, station-to-station portions of the statewide system to facilitate engineering design, environmental review, community engagement, and implementation. Since 2007 work has been underway on the development of alternatives for this section. With the release of the Revised 2012 Business Plan (and subsequent 2014 Business Plan), a refined vision and plan for HSR evolution and development directly relevant to the P-LA section was articulated. Both Business Plans called for an Initial Operating Section (IOS) with a temporary terminus station in the San Fernando Valley that is fully integrated with the existing metropolitan rail infrastructure in order to provide connections to all of Southern California while construction of the HSR system to LAUS and beyond continues. Other non-Business Plan developments since 2007 also affect the P-LA section, including (a) the emergence of the XpressWest HSR project from Las Vegas to Victorville and the addition of a high-speed rail corridor to the High Desert Corridor (HDC) project from Victorville to Palmdale, (b) local and regional planning for a transit village surrounding the Palmdale Transportation Center, (c) local land use and regional ground transportation planning near the Bob Hope Airport, including a regional intermodal transportation hub, and (d) master planning for improved rail facilities and real estate development at LAUS.

These factors led to the recognition of the need for several key refinements to the planning for the P-LA section:

1. The P-LA section can be better advanced as two HSR project sections for environmental review, engineering, and implementation: Palmdale-San Fernando Valley and San Fernando Valley-LA. The IOS concept is to start service to the San Fernando Valley. HSR from the San Fernando Valley to LAUS may not be constructed or operational until after the IOS. Dividing the analyses into two sections will speed planning, engineering, environmental review, and further community engagement to ready Palmdale-San Fernando Valley for approval and construction, and allow for more time for San Fernando Valley-LA to address LAUS master planning.
2. Land use and transportation planning by the City of Burbank and the Burbank-Glendale-Pasadena Airport Authority has advanced to create a synergistic plan that will leverage the multimodal connections and create a transit oriented development (TOD) around the Bob Hope Airport.
3. The interim terminus station in the San Fernando Valley will provide the most regional connectivity if it is located near the Bob Hope Airport. Previous P-LA Alternatives Analysis documents included three San Fernando Valley station options, but only one is near the Bob Hope Airport (Burbank Airport Station – formerly Buena Vista Station). The Regional Intermodal Transportation Center (RITC) in Burbank, which will facilitate connections with the airport, is now under construction and will hold a grand-opening ceremony on June 27, 2014. The parking, rental car facilities, and airport connectivity made possible by the RITC, in addition to Metrolink Ventura County line connectivity, provide benefits unavailable at the other San Fernando Valley

- station options. The Burbank Airport Station area would be able to utilize these benefits due to its close proximity ( $\frac{1}{4}$ -mile to the north along North Hollywood Way) to the RITC.
4. The need to leverage the existing and planned metropolitan, regional rail, and transit infrastructure converging in Palmdale by co-locating the Palmdale HSR station with the regional transportation hub being planned at the Palmdale Transportation Center (PTC). This location is supported by adopted transit oriented land uses and current planning activities. In addition, a high-speed rail connection along the HDC (a Measure R project<sup>1</sup>) between the XpressWest HSR project station in Victorville and PTC is in the environmental planning stages – this project would create an interstate high-speed rail hub at PTC. Previous P-LA Alternatives Analysis documents included PTC, but also included a stand-alone “greenfield” station called Palmdale West located in a relatively undeveloped area surrounded by residential uses. This “greenfield” station no longer meets the basic interconnected system and land use objectives of the project in light of evolving regional transportation planning around Palmdale.
  5. Maintaining sustained operating speeds of no less than 200 mph is a design objective. Refinements to alignment geometry have been made in the Santa Clarita area along one of the alignments in order to better achieve this objective.
  6. Design flexibility is needed in the San Fernando Valley along the existing rail corridor. Continuing to study an alignment to the west of Metrolink along this corridor allows for flexibility in implementing early investment projects described as bookends in SB 1029 and presented as a goal of the 2014 Business Plan.
  7. The P-LA section and the Los Angeles to Anaheim (LA-A) section at LAUS need to be coordinated. The HSR alignment approaching LAUS in tunnel was refined to accommodate both an at-grade and elevated connection to LAUS.

The results of this SAA are depicted graphically in Figure ES-1.

## ES.2 Public and Agency Outreach Efforts

The Preliminary Alternatives Analysis (PAA) (2010), SAA (2011), and SAA (2012) included lists of the outreach meetings held prior to completion of these documents. This SAA provides a list of meetings held since April 2012 when the last SAA was published. Additional outreach meetings will be scheduled upon this report’s publication. The purpose of these meetings was to explain the Alternatives Analysis process, share the results of the preliminary studies with the public and agencies, and receive feedback.

This feedback was used to develop additional alternatives, station options, and design refinements for consideration in this SAA. Over the years, feedback from the public and agencies has included issues such as noise, visual impacts, vibration, community cohesion, biological impacts, project cost and funding, right-of-way, accessibility, consistency with local planning, and more.

## ES.3 Next Steps

The purpose of this SAA Report is to describe the range of alternatives considered for the Palmdale to Los Angeles Corridor, and report how they either meet or do not meet HSR project purpose and need and are either recommended for additional analysis in the environmental clearance process, or are withdrawn from further evaluation.

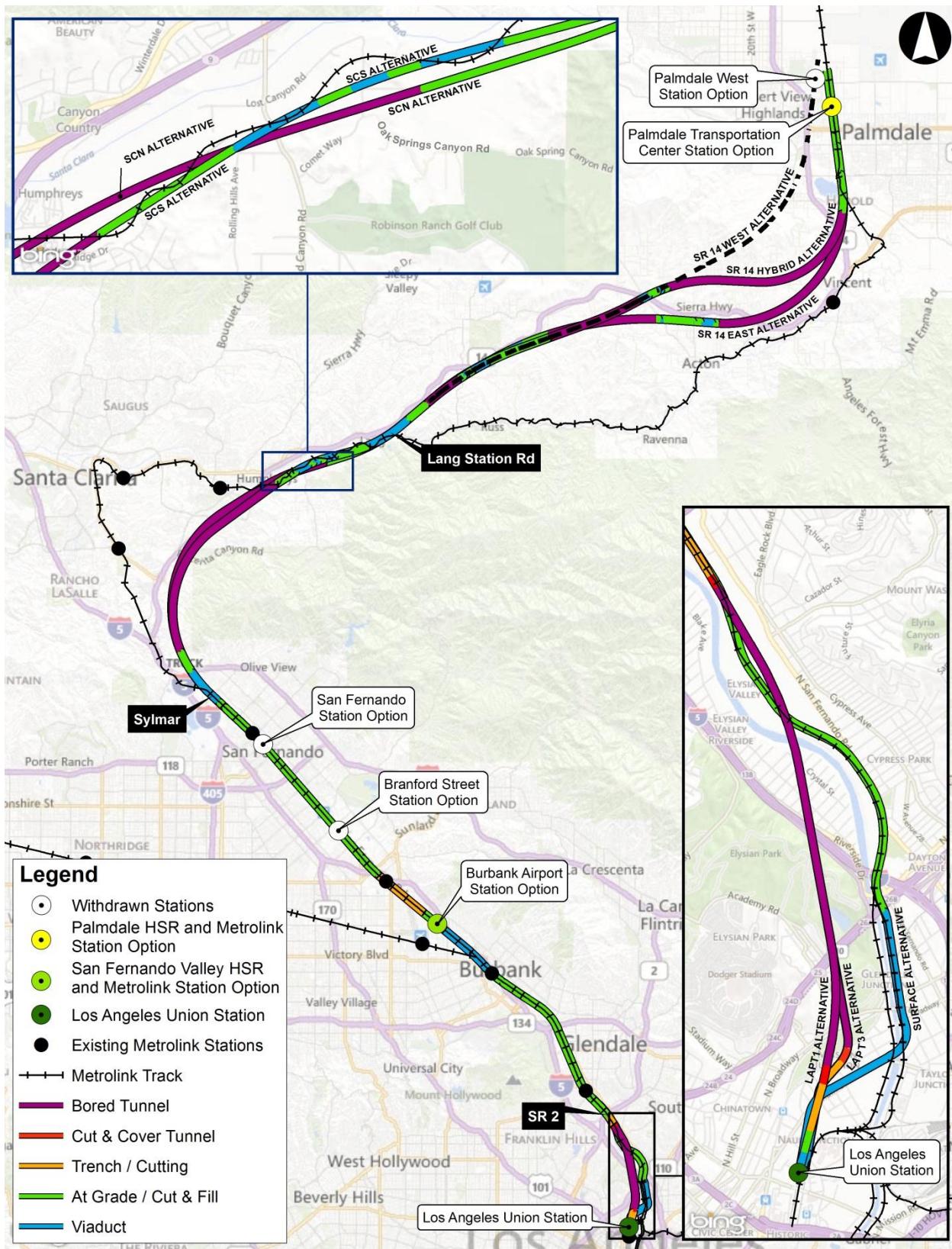
<sup>1</sup> Measure R was a ballot measure during the November 2008 elections in Los Angeles County. It proposed a half-cent sales tax increase for thirty years in order to commit \$40 billion to traffic relief and transportation upgrades throughout Los Angeles County. The measure was approved by voters with 67.22% of the vote, over the two-thirds majority required by the State of California to raise local taxes.

This SAA informs the Project Description for the Project-level environmental document. It also sets parameters for the next level of design and environmental analysis. This ongoing work will provide the California High-Speed Rail Authority (Authority), Federal Railroad Administration (FRA), and the communities in the Palmdale to Los Angeles Corridor more details and a fuller picture of the alternatives in each subsection and a comprehensive vision of the entire corridor.

More specifically, the Palmdale to Los Angeles section will be divided into the Palmdale to Burbank section and the Burbank to Los Angeles section. This will be formalized with issuance of new environmental scoping initiation documents – *e.g.*, Notice of Intent under the National Environmental Policy Act (NEPA) – for each section. Authority staff will continue engagement efforts with local government, stakeholders and the public. Authority and FRA staff also will engage with the United States Army Corps of Engineers (USACE) and the United States Environmental Protection Agency (USEPA) in the NEPA/404/408 merger process. Authority staff then will prepare draft Alternatives Analysis (AA) documents for the Palmdale to Burbank section and the Burbank to Los Angeles sections. These AA documents will utilize the extensive work staff has done to date, but will re-package that work (and add other information if, and as, necessary) to reflect that the corridor would now consist of two sections. Authority and FRA staff then would work with USACE and USEPA pursuant to the agencies' Memorandum of Understanding to integrate NEPA and Clean Water Act Section 404/408, and Authority staff would make presentations to the Authority Board, to finalize alternatives to be evaluated in the environmental clearance process.

The process and steps above would proceed separately and earlier for the Palmdale to Burbank section. As this scoping, stakeholder engagement, engineering and environmental work progresses for Palmdale to Burbank, the Authority will continue to meet and engage communities and stakeholders in the Burbank to Los Angeles section.

**Figure ES-1 Alignment and Station Alternatives Studied in this SAA**



## SUPPLEMENTAL ALTERNATIVES ANALYSIS REPORT

### 1 INTRODUCTION

This Palmdale to Los Angeles SAA Report updates the Palmdale to Los Angeles High-Speed Rail section PAA and SAA Reports issued by the Authority in July 2010, March 2011 and April 2012, respectively. The March 2011 SAA Report re-evaluated the subsections from LAUS to Sylmar, and the April 2012 SAA Report focused solely on the Sylmar to Palmdale subsection and broke it into two subsections, named Santa Clarita and Palmdale. While this SAA document considers alternatives within a small section of the entire HSR network, these alternatives are evaluated in the context of the HSR system as a whole in order to meet the HSR project goals. Alternatives in individual subsections that may reduce environmental impacts, but decrease operating speeds, disproportionately increase implementation cost, and/or require operational exceptions as compared to other alternatives, could compromise program-wide goals for the HSR system.

The purpose of this SAA Report is to describe the range of alternatives considered for the Palmdale to Los Angeles Corridor, and report how they either meet or do not meet the HSR project purpose and need and are either recommended for additional analysis in the environmental clearance process, or are withdrawn from further evaluation.

The Authority is in the process of evaluating potential locations for a Terminal Storage and Maintenance Facility (TSMF) in Southern California. This facility will be used to store trains overnight and to supply inspected and serviced trainsets at the start of the revenue day. It needs to be located along the HSR alignment somewhere between Mojave and Los Angeles. A determination has not yet been made whether or not a potentially feasible TSMF site can be found within the P-LA section, or whether the final southern TSMF site will be located in the P-LA or the Bakersfield to Palmdale Section. The Bakersfield to Palmdale section SAA includes potential TSMF sites in the Antelope Valley north of Palmdale. However, a TSMF site is not considered in this SAA at this time because more study is required. More detail about potential TSMF site feasibility in the Palmdale to Los Angeles corridor will be documented in a future Alternatives Analysis.

#### 1.1 Identification of Alternatives to be Carried Forward

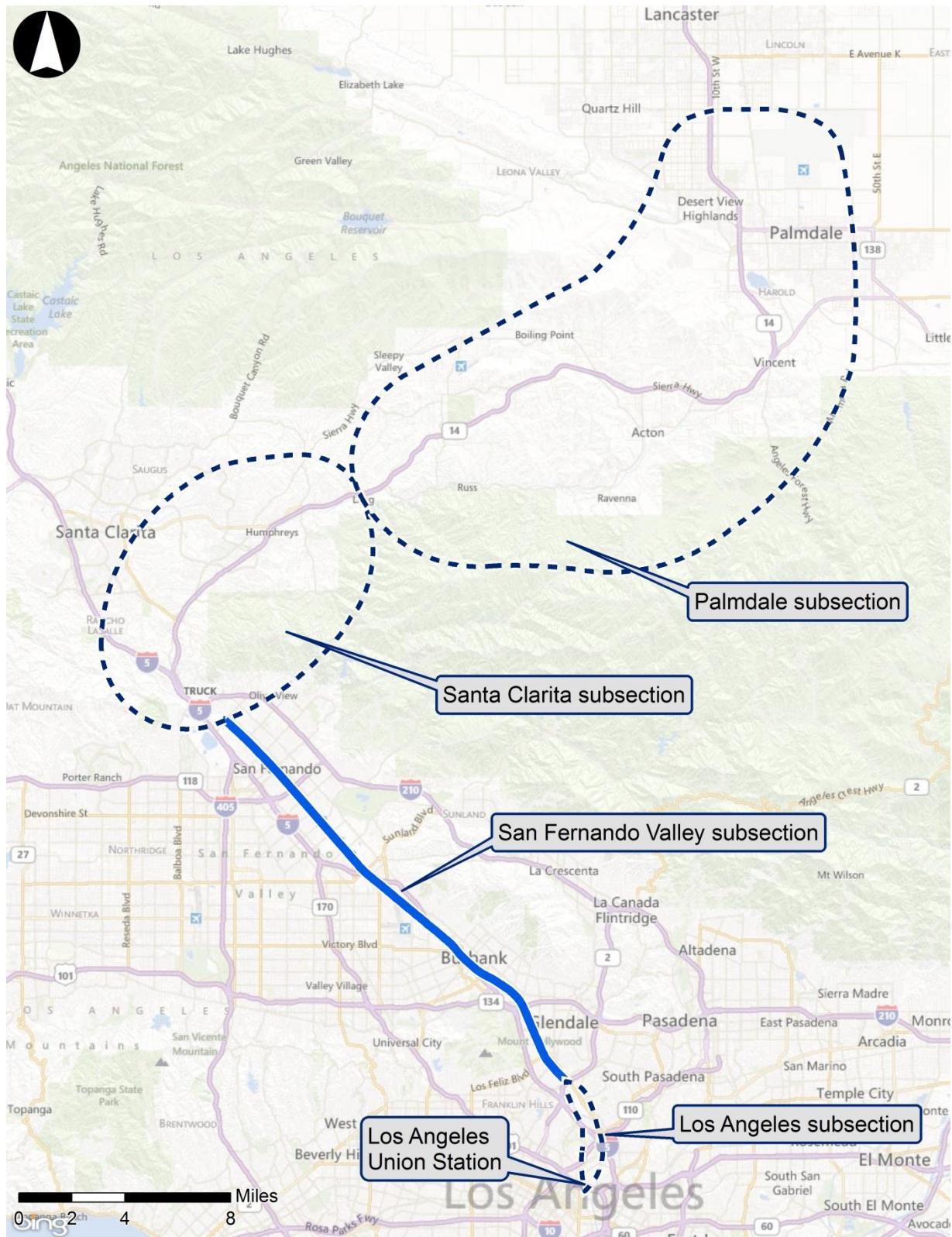
The criteria that qualify an alternative to be carried forward for further consideration include:

- Alternative meets purpose and need.
- Alternative has no environmental or engineering issues that would make approvals infeasible.
- Alternative is potentially feasible and practical to construct.
- Alternative reduces or avoids adverse environmental and community impacts.

#### 1.2 Background and Description of Alternatives; Conclusions of this SAA

The Palmdale to Los Angeles section of the HSR project is approximately 60 miles long. For the purposes of this SAA, the study area boundaries are the entire Palmdale to Los Angeles Corridor, extending from Palmdale to Los Angeles Union Station, with connections with the Bakersfield to Palmdale Section to the north, and the Los Angeles to Anaheim Section to the south (Figure 1-1). As shown in Figure 1-1, this section was previously divided into subsections. The Palmdale to Los Angeles Section is an essential part of the statewide HSR system, and also (with the Bakersfield to Palmdale section) closes a gap in the current north-south passenger rail network in California. It provides a new transportation mode that would contribute to increased mobility and improved access to markets throughout California.

**Figure 1-1 SAA Study Area Boundaries and Subsections**



In March 2011, the Authority Board of Directors (Authority Board) concurred in recommendations for supplemental alignment alternatives and station options for the Los Angeles to Sylmar subsection. In April 2012, the Authority Board concurred in recommendations for supplemental alternative alignments for the Sylmar to Palmdale subsection and redefining the subsection into two new subsections, the Santa Clarita subsection, extending from Sylmar to two miles east of Lang Station Road, and the Palmdale subsection, extending from two miles east of Lang Station Road to Palmdale.

This SAA documents the following refinements to alternatives/design options (along with supporting evaluation) recommended for incorporation into or withdrawal from the Palmdale to Los Angeles Corridor's environmental planning process.

- Division of the Palmdale to Los Angeles corridor into two separate HSR sections: Palmdale to Burbank and Burbank to Los Angeles.
- Withdrawal of the State Route (SR) 14 West alignment alternative due to the inability of its associated station (Palmdale West) to provide intermodal connections to existing inter-regional rail service; inability to serve the planned TOD uses at PTC; inability to provide a direct connection to the proposed HDC/XpressWest interstate HSR service; and a lack of local and regional support.
- Refinement of the profile of the SCN Alignment Alternative to better meet project purpose and need.
- Re-introduction of the San Fernando Valley West HSR alignment to allow for flexibility in implementing early investment projects, a goal of the 2014 Business Plan.
- Withdrawal of Branford Street and San Fernando Station Options due to lack of supportive land uses around these locations consistent with requirements of a temporary terminus station and lack of regional interconnectivity. This interconnectivity is provided at the Burbank Airport Station Option due to proximity with Bob Hope Airport, RITC and associated facilities, and the Metrolink Ventura County line.
- Refinement of the LAPT1 alignment to accommodate both an at-grade and elevated connection to LAUS.

### 1.3 Alternatives Development Process

The approach to the preparation of this study involves the creation and refinement of alternatives through a series of iterative processes that are intended to compare alternatives. This study follows a defined alternative analysis process the Authority and FRA developed in 2010, and uses both qualitative and quantitative measures that reflect a mixture of applicable policy and technical considerations.

The 2010 guidance directs that the AA process shall, "identify reasonable and feasible project alternatives that would meet the Purpose and Need for the project and are consistent with the Basis of Design Report, identify those alternatives where environmental issues (severe conflicts or constraints) or engineering challenges may justify dropping them from further analysis, and provide comparative information and data that highlight and compare similarities and differences between alternatives by using project design criteria."

The Basis of Design Report (TM 0.3, 2012) discusses the Authority's goals regarding station planning. In particular, it mentions that:

*It is the Authority's objective to minimize impacts associated with growth by selecting multi-modal transportation hubs as potential [California High-Speed Train] CHST stations. These locations will maximize access and connectivity, and facilitate transit oriented development (TOD). The CHST System will be coordinated with local and regional plans that support rail systems and TOD, offering opportunities for increased land use efficiency. Intermodal connectivity with local and regional transit, airports, and highways will also be supported. The specific station configuration will be defined as necessary to accommodate train and passenger*

*volumes and frequency required to serve the forecasted demand. Overall station size will also consider access facilities, parking facilities, and passenger facilities.*

Additional recent developments in the Palmdale to Los Angeles section need to be considered, such as the incorporation of the Palmdale Transit Village Transit Master Plan into the General Plan, the addition of HSR to the HDC environmental analysis to create a HSR connection to the XpressWest project from Victorville to Palmdale, regional planning for an intermodal transportation hub at/near the Bob Hope Airport, and master planning for improved facilities and real estate development at LAUS. These developments have helped guide the refinement of alternatives in the Palmdale to Los Angeles section.

Generally, NEPA requires evaluation of all reasonable alternatives. Through the AA process, the Authority and FRA seek to identify reasonable alternatives by defining a range of station and alignment configurations which would feasibly attain the purpose and need of the project but would avoid or substantially lessen any of the adverse effects of the project, and evaluate the comparative merits of the options. Every conceivable alternative to a project need not be evaluated. Rather, when multiple potentially feasible options exist, a reasonable range of alternatives is considered. Alternatives that are infeasible or that do not meet basic purpose and need are not required to be considered. This evaluation and screening process is being documented.

Feasible includes many potential items, including but not limited to planning and policy goals, and the ability to obtain, as necessary, environmental permits from resource agencies such as the United States Fish and Wildlife Service (USFWS), USACE and State Water Resources Control Board (SWRCB).

Reasonable alternatives are those that are practical and feasible from the technical and economic standpoint; these are identified through the AA process. Those reasonable alternatives are then carried forward for further analysis in the draft environmental review document.

The techniques that are used to gather information and develop and compare alternatives include:

- **Field Inspections of Corridors** – The potential alignment, right-of-way (ROW), and station locations are the subject of field inspection by qualified planners, engineers, and environmental scientists with experience in railroad operations and construction of linear transportation projects to identify conditions and factors not visible in aerial photos or on maps. Over the course of the study, field inspections become progressively more detailed as the alternatives are refined by the planning, environmental and engineering work.
- **Project Team Input and Review** – The project team conducts internal meetings to discuss alternatives and local issues that potentially impact alignments.
- **Qualitative Assessment** – A number of the qualitative measures used to describe the alternative alignments are developed by professionals with experience in the construction and operation of HSR and other transportation systems. These measures include constructability, accessibility, operability, maintainability, ROW, public infrastructure impacts, railway infrastructure impacts, and environmental impacts.
- **Engineering Assessment** – Engineering assessments are provided for a number of measures that can be readily quantified at this stage of project development. The engineering assessments can provide information on project length, travel time, and configuration of key features of the alignment such as the presence of existing infrastructure.
- **GIS Analysis** – The bulk of the assessment is performed using geographic information system (GIS) data, which enables depictions of the project's interactions with a variety of measurable geographic features, both natural and built. GIS data are used to assess impacts on farmland, water resources, floodplains, wetlands, threatened and endangered species, cultural resources,

current urban development, infrastructure, oil and gas exploration and production and other resources.

- **Community/Stakeholder Outreach** – The project team conducts outreach meetings with stakeholders and the general public to discuss and receive feedback on the project alternatives. Input from the outreach process provides insight regarding local issues and concerns, and can be used to supplement the information provided by the other information-gathering techniques cited above.

Assessment and analysis measures have been developed for each step in the process outlined above. The evaluation measures, as applied, are progressively more technical and quantitative as alternatives evolve.

## 1.4 Meeting Project Purpose and Need

The Authority's statutory mandate is to plan, build, and operate an HSR system coordinated with California's existing transportation network, particularly intercity rail and bus lines, commuter rail lines, urban rail lines, highways, and airports.

This SAA compares the station and alignment alternatives to the Authority's adopted purpose and need in support of the project goals as described below:

*The purpose of the statewide [High-Speed Train] HST system is to provide a reliable high-speed electric-powered train system that links the major metropolitan areas of the state, and that delivers predictable and consistent travel times. A further objective is to provide an interface with commercial airports, mass transit, and the highway network, and to relieve capacity constraints of the existing transportation system as increases in intercity travel demand in California occur, in a manner sensitive to and protective of California's unique natural resources (Authority and FRA 2005).*

For Clean Water Act section 404(b)(1) compliance, the USACE must take into consideration the applicant's needs in the context of the geographic area of the proposed action and the type of project being proposed. The USACE has determined that the overall project purpose (as stated above) allows for a reasonable range of practicable alternatives to be analyzed and is acceptable as the basis for the USACE 404(b)(1) alternatives analysis.

From Proposition 1A (Assembly Bill 3034), the Authority has adopted the following goals and objectives for the proposed HSR system:

1. Provide intercity travel capacity to supplement critically overused interstate highways and commercial airports.
2. Meet future intercity travel demand that will be unmet by present transportation systems and increase capacity for intercity mobility.
3. Maximize intermodal transportation opportunities by locating stations in areas with good access to local mass transit or other modes of transportation.
4. Improve the intercity travel experience for Californians by providing comfortable, safe, frequent, and reliable high-speed travel.
5. Provide a sustainable reduction in travel time between major urban centers.
6. Increase the efficiency of the intercity transportation system.
7. In order to reduce impacts on communities and the environment, the alignment shall follow existing transportation or utility corridors to the extent feasible.

8. Develop a practical and economically viable transportation system that can be implemented in phases and generate revenues in excess of operations and maintenance costs.
9. Provide intercity travel in a manner that minimizes urban sprawl, is sensitive to and protective of the region's natural resources, and reduces emissions and vehicle miles traveled for intercity trips.
10. Preserve wildlife corridors and mitigate impacts to wildlife movement, where feasible, in order to limit the extent to which the system may present an additional barrier to wildlife's natural movement.

#### **1.4.1 Revised 2012 Business Plan<sup>2</sup>**

Following release of the Draft Business Plan on November 1, 2011, Governor Jerry Brown affirmed the importance of moving forward with HSR as an important investment in California's future. The Governor and others called for changes to the Draft Business Plan so that the guiding goals and objectives will emphasize selection of alternatives that improve the utility of the system and its connectivity with regional/commuter rail systems. These changes were requested so that Californians would realize benefits sooner and the costs to taxpayers would be reduced compared to the original plan. In response, the Authority prepared a Revised Business Plan in 2012.

The Authority's Revised 2012 Business Plan laid out a modified implementation strategy to make the best use of existing railroad infrastructure. The goals of this modified implementation strategy are:

- A commitment to a **blended system** which focuses new high-speed infrastructure development between the state's metropolitan regions while using, to the maximum extent possible, existing regional and commuter rail systems in urban areas.
- A commitment to **blended operations** at all phases of development that seeks to use new and existing rail infrastructure more efficiently through coordinated delivery of services, including interlining of trains from one system to another, as well as integrated scheduling to create seamless connections.
- An **Initial Operating Section** (IOS) will extend between the Central and San Fernando Valleys and will seek to connect high-speed infrastructure to already existing modes of transportation with the goal of closing the rail gap between Bakersfield and Palmdale and connecting the Central Valley to the Los Angeles Basin in the San Fernando Valley.
- Making **early investments** in the "bookends," defined as San Francisco and the Los Angeles Basin, to upgrade existing services, build ridership, and lay the foundation for expansion of the HSR.

#### **1.4.2 2014 Business Plan<sup>3</sup>**

The 2014 Business Plan builds on and updates the Revised 2012 Business Plan. It complies with the statutory requirements originally established for preparing a business plan every two years and it addresses the new requirements established in SB 1029 (Budget Act of 2012). The Authority issued a Draft Plan on February 7, 2014 and sought and received public comment through a variety of means including mail, a dedicated email address, phone, the Authority's Draft 2014 Business Plan website, and at the Authority's February, March, and April Board meetings. The Authority also participated in three legislative hearings, and engaged with a range of stakeholders to review the Draft Plan, to seek

<sup>2</sup> California High-Speed Rail Authority, *California High-Speed Rail Program Revised 2012 Business Plan – Building California's Future*, April 2012, available at: <http://californiastaterailplan.dot.ca.gov/docs/1a6251d7-36ab-4fec-ba8c-00e266dadec7.pdf>, accessed August 22, 2013.

<sup>3</sup> California High-Speed Rail Authority, *Connecting California – 2014 Business Plan*, April 2014, available at: [http://hsr.ca.gov/docs/about/business\\_plans/BPlan\\_2014\\_Business\\_Plan\\_Final.pdf](http://hsr.ca.gov/docs/about/business_plans/BPlan_2014_Business_Plan_Final.pdf), accessed May 19, 2014.

comments, and respond to questions. The Board of Directors considered all the comments received on the Draft Plan and published the 2014 Business Plan on April 30, 2014.

The 2014 Business Plan reports the progress made with federal, state, regional and local partners over the last two years and highlights some of the milestones that lie ahead. It presents updated cost estimates and ridership and revenue forecasts, all of which have been informed by and improved through rigorous scrutiny and review by a range of external experts and academics. These new forecasts serve as the basis for the updated financial analysis – which continues to show that the program is financially viable and which, in turn, confirms that the private sector will regard this as an attractive investment opportunity. Following the recommendations offered by the Legislative Peer Review Group (PRG) and the United States Government Accountability Office (GAO), the Authority also applied an analytic technique designed to quantify and better understand the risks associated with its forecasts, which is described in relevant sections of the document. This 2014 Business Plan also includes an updated analysis of the economic impacts of the system that reflects GAO recommendations. Lastly, a summary of potential risks and the process the Authority uses to monitor, mitigate and manage those risks has been updated.

## 1.5 Evaluation Measures and Comparison of Alternatives

Project alternatives are evaluated using system performance criteria that address design differences and qualities, and that correspond to the project purpose and need indicated above. Measures to evaluate and compare the project alternatives are described below. Where it is possible to quantify the effects, estimates are provided; where it is not possible to quantify effects, qualitative evaluation is provided. A list of evaluation criteria used in this report is presented in Table 1-1. These evaluation measures are summarized in Table 7-1 at the end of this document, and are assigned as a primary or secondary reason if an alternative is being withdrawn from further consideration. In addition, Table 7-1 also contains a summary of how many goals and objectives each alternative meets.

Project alternatives shall be evaluated using system performance criteria that address design differences and qualities. Alignment and station performance objectives and criteria are:

Objective	Criteria
Maximize ridership/revenue potential	Travel time Route length
Maximize connectivity and accessibility	Intermodal connections
Minimize operating and capital costs	Operations and maintenance issues and costs

In addition to the Authority objectives and criteria above, further measures to evaluate and compare the project alternatives are described below. Where it is possible to quantify the effects, estimates are to be provided, and where it is not possible to quantify effects, qualitative evaluation should be provided.

**Table 1-1 HSR AA Evaluation Measures**

Measurement	Method	Source
<b>A. Land use supports transit use and is consistent with existing, adopted local, regional, and state plans, and is supported by existing or future growth areas as measured by:</b>		
<b>Development potential for Transit-Oriented Development (TOD) within walking distance of station</b>	Identify existing and proposed land uses within 1/2 mile of station locations. Identify if there are TOD districts, TOD overlay zones, mixed-use designations, or if local jurisdictions have identified station areas for redevelopment or economic development	Regional and local planning documents and land use analysis and input from local planning agencies
<b>Consistency with other planning efforts and adopted plans</b>	Qualitative – general analysis of applicable planning and policy documents	Land Use Analysis and input from planning agencies
<b>B. Construction of the alternative is feasible in terms of engineering challenges and right-of-way constraints as measured by:</b>		
<b>Constructability, access for construction; within existing transportation ROW</b>	Extent of feasible access to alignment for construction	Conceptual design plans and maps
<b>Disruption to existing railroads</b>	ROW constraints and impacts on existing railroads	Conceptual design plans and maps
<b>Disruption to and relocation of utilities</b>	Number of utilities crossed	Conceptual design plans and maps
<b>C. Minimizes disruption to neighborhoods and communities – extent to which an alternative minimizes ROW acquisitions, minimizes dividing an established community, and minimizes conflicts with community resources.</b>		
<b>Displacements</b>	If possible, estimate number of properties by land use type that would be displaced, or acres of land within the ROW/station footprint, by type of land use: single-family, multifamily, retail/commercial, industrial, etc.	Identified by comparing the alignment conceptual design drawings with aerial photographs, zoning maps, GIS layers, and regional and local General Plan maps
<b>Property with Access Affected</b>	Estimate number of potential locations along the alignments or at station locations where, and the extent to which, access would be affected	Conceptual design plans and aerial photographs

Measurement	Method	Source
<b>Proximity to Schools</b>	Consistent with Public Utilities Commission Section 21151.4, identify the location of schools within 0.25 mile on either side of the construction footprint	Conceptual design plans, aerial photographs, GIS layers, and regional and local General Plan maps
<b>Proximity to Land Fills</b>	Consistent with Title 27 of the California Code of Regulations, identify the location of landfills within 0.25 mile on either side of the construction footprint	Conceptual design plans and aerial photographs
<b>Proximity to Section 4(f) Resources</b>	Identify protected parks, wildlife refuges, or historical sites to determine if a permanent, temporary, or constructive use would likely occur	Conceptual design plans, historic/archival and current aerial imagery, GIS layers, regional and local General Plan maps, and federal, state, and local cultural resources registries
<b>Local Traffic Effects around Stations</b>	Identify potential locations where increases in traffic congestion or level of service (LOS) are expected to occur	Existing traffic LOS from local jurisdictions
<b>Local Traffic Effects at grade separations</b>	Identify potential locations at-grade separations where increase in traffic congestion or LOS are expected to occur	Existing traffic LOS from local jurisdictions
<b>D. Minimizes impacts to environmental resources – extent to which an alternative minimizes impacts on natural resources are measured by:</b>		
<b>Waterways and wetlands and natural preserves or biologically sensitive habitat areas affected</b>	Identify new rail bridge crossings required; rough estimate of acres of wetlands, width of waterways crossed; acres and species of threatened and endangered habitat affected; acres of natural areas/critical habitat affected	Conceptual design plans and GIS layers; Section 404(b)1 analysis
<b>Cultural Resources</b>	Identify locations of National Register of Historic Places or California Historical Resources Information System listed properties. For archaeological resources, identify areas of high or moderate sensitivity based on previous studies conducted in the study area	Conceptual design plans and GIS layers; historic/archival and current aerial imagery, regional and local General Plan maps, and federal, state, and local cultural resources registries and cultural resource records search and surveys

Measurement	Method	Source
<b>Parklands</b>	Estimate number and acres of parks that could be directly and indirectly affected. This would also include major trails that would be crossed	Conceptual design plans, local General Plans, aerial photographs, and GIS layers
<b>Agricultural Lands</b>	Estimate acres of prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance within preliminary limits of disturbance	Conceptual design plans and GIS layers
<b>E. Enhances environmental quality — extent to which an alternative minimizes impacts on the natural environment as measured by:</b>		
<b>Noise and Vibration effects on sensitive receivers</b>	Identify types of land use activities that would be affected by HSR pass-by noise and ground vibration	Results of screening-level assessment: inventory of potential receivers from site survey and aerial maps
<b>Change in visual/scenic resources</b>	Identify number of local and scenic corridors crossed and scenic/visual resources that would be affected by HSR elevated structures in scenic areas and shadows on sensitive resources (parks). Identify locations where residential development is in close proximity to elevated HSR structures	Results of general assessment; survey of alignment corridors and planning documents from local and regional agencies
<b>Maximize avoidance of areas with geological and soils constraints</b>	Identify number of crossings of known seismic faults, estimate acres of encroachment into areas with highly erodible soils, acres of encroachment into areas with high landslide susceptibility	United States Geological Survey maps and available GIS data; California Department of Conservation's California Geologic Survey, Regional Geologic Hazards & Mapping Program; check Map Index to identify maps appropriate for HSR sections
<b>Maximize avoidance of areas with potential hazardous materials</b>	Identify hazardous materials/waste areas to avoid constraints	Data from previous records search conducted for other projects within the study area

Source: Authority and FRA 2010 Alternatives Analysis Guidance.

Note: Since the 2010 guidance, new criteria have been added for analysis. (Proximity to schools, landfills, and Section 4(f) resources)

## 1.6 Community Outreach

Since April 2012, the Palmdale to Los Angeles team has met with stakeholders within the Palmdale to Los Angeles section to gather their input, hear their concerns and identify potential modifications. Detailed information on each meeting can be found in Appendix B.

Throughout this period of discussion with stakeholders, the Palmdale to Los Angeles team gathered feedback regarding the technical aspects of the proposed alignments and station options along with general questions as to the statewide and section specific process. Comments received regarding impacts at these meetings included connectivity, noise/vibration, eminent domain, grade crossings, future development plans, and visual impacts; each of which will be considered in greater detail during the environmental review and/or design refinement processes. Comments about TOD, job creation, and connectivity were also received and will be explored further during the environmental process.

Table 1-2 provides a summary of the key stakeholder meetings conducted between April 2012 and December 2013. Key stakeholders included: agencies, corridor cities and elected officials.

**Table 1-2 Summary of Palmdale to Los Angeles Key Stakeholder Outreach Meetings (April 2012 – December 2013)**

No.	Date	Meeting	Category*	Jurisdiction
1.	April 3, 2012	Resource Agencies – USACE and USEPA	AS	System-wide
2.	April 5, 2012	City of Los Angeles	AS	Los Angeles
3.	April 18, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County
4.	April 24, 2012	City of Palmdale	AS	Palmdale
5.	April 30, 2012	Bob Hope Airport	AS	Burbank
6.	April 30, 2012	City of Burbank	AS	Burbank
7.	May 1, 2012	City of Los Angeles (Councilmember Tom LaBonge)	EL	Los Angeles
8.	May 7, 2012	City of Burbank Councilmembers	EL	Burbank
9.	May 17, 2012	City of Burbank HSR Subcommittee	EL	Burbank
10.	May 17, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County
11.	May 19, 2012	Town of Acton/Agua Dulce	AS	LA County
12.	May 22, 2012	City of Los Angeles (Mayor Villaraigosa staff)	EL	Los Angeles
13.	May 22, 2012	City of Santa Clarita	AS	Santa Clarita
14.	June 11, 2012	City of Santa Clarita	EL	Santa Clarita
15.	June 13, 2012	City of Glendale	AS	Glendale
16.	June 13, 2012	Agua Dulce Councilmembers	EL	LA County

No.	Date	Meeting	Category*	Jurisdiction
17.	June 13, 2012	Los Angeles County Metropolitan Transportation Authority/Metrolink	AS	LA County
18.	June 19, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County
19.	July 10, 2012	Los Angeles County Metropolitan Transportation Authority	AS	LA County
20.	July 19, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County
21.	July 25, 2012	City of Palmdale	AS	Palmdale
22.	July 26, 2012	L.A. River Watershed	PWG	LA County
23.	July 30, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County
24.	August 14, 2012	Los Angeles County Metropolitan Transportation Authority	AS	LA County
25.	August 16, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County
26.	August 21, 2012	Los Angeles Department of Water and Power	AS	LA County
27.	August 22, 2012	City of Burbank HSR Subcommittee	EL	Burbank
28.	August 30, 2013	LA River Project Workshop	PWG	LA County
29.	October 3, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County
30.	October 10, 2012	Los Angeles County Metropolitan Transportation Authority	AS	LA County
31.	November 6, 2012	Southern California Association of Governments	AS	LA County
32.	December 18, 2012	City of Palmdale	AS	Palmdale
33.	December 19, 2012	Los Angeles County Metropolitan Transportation Authority	AS	LA County
34.	January 8, 2013	City of Palmdale	AS	Palmdale
35.	January 14, 2013	Los Angeles County Supervisor Antonovich staff	EL	Los Angeles
36.	January 17, 2013	Bob Hope Airport	AS	Burbank
37.	January 28, 2013	City of Los Angeles Ad Hoc River Committee	AS	Los Angeles
38.	January 29, 2013	City of Los Angeles Planning and Land Use Management Committee	EL	Los Angeles

No.	Date	Meeting	Category*	Jurisdiction
39.	February 12, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County
40.	February 22, 2013	City of Sand Canyon/Santa Clarita	AS	Santa Clarita
41.	March 12, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County
42.	March 13, 2013	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County
43.	April 3, 2013	Union Station Master Plan Working Session	AS	LA County
44.	April 9, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County
45.	April 15, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County
46.	April 18, 2013	Los Angeles County Metropolitan Transportation Authority/City of Palmdale/Caltrans (California Department of Transportation)	AS	LA County
47.	April 25, 2013	City of Burbank Staff	AS	Burbank
48.	April 26, 2013	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County
49.	May 7, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County
50.	May 16, 2013	City of Palmdale	AS	Palmdale
51.	May 30, 2013	San Fernando Valley Technical Working Group	AS	Los Angeles
52.	June 11, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County
53.	June 14, 2013	SR134-LAUS LA City Technical Working Group	AS	Los Angeles
54.	July 9, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County
55.	July 12, 2013	San Fernando Valley Technical Working Group	AS	Los Angeles
56.	July 19, 2013	Los Angeles Mayor Garcetti Staff Briefing	EL	Los Angeles
57.	August 13, 2013	Los Angeles County Metropolitan Transportation Authority	AS	Los Angeles
58.	August 22, 2013	Los Angeles County Public Works	AS	Los Angeles
59.	September 12, 2013	Central City Association Transportation, Infrastructure and Energy Committee	STO	Los Angeles
60	September 18, 2013	Speaker's Office of Member Services (Assemblymember Fox/Speaker Perez)	EL	Los Angeles

No.	Date	Meeting	Category*	Jurisdiction
61.	September 19, 2013	SR134-LAUS LA City Technical Working Group	AS	Los Angeles
62.	October 1, 2013	LA County of Public Works Meeting	AS	Los Angeles
63.	October 1, 2013	City of Burbank Meeting	AS	Burbank
64.	October 2, 2013	Supervisor Antonovich Quarterly Transportation Summit	PIM	Palmdale
65.	October 4, 2013	City of Santa Clarita	AS	Santa Clarita
66.	October 8, 2013	Supervisor Antonovich's Staff Briefing	AS	Los Angeles
67.	October 8, 2013	Railway Association of Southern California	GIO	Fullerton
68.	October 9, 2013	City of Palmdale Meeting	AS	Palmdale
69.	October 17, 2013	Palmdale/Santa Clarita Legislative Briefing	AS	Los Angeles
70.	October 21, 2013	City of San Fernando Meeting	AS	San Fernando
71.	October 23, 2013	City Councilmember Fuentes Staff Briefing	AS	Los Angeles
72.	October 23, 2013	City Councilmember Huizar Staff Briefing	AS	Los Angeles
73.	October 23, 2013	City Councilmember Martinez Staff Briefing	AS	Los Angeles
74.	October 24, 2013	SR134-LAUS Legislative Briefing	AS	Los Angeles
75.	October 25, 2013	WTS-LA Career Day	GIO	Los Angeles
76.	October 29, 2013	Mobility 21	AS	Los Angeles
77.	October 30, 2013	Sylmar/San Fernando Legislative Briefing	AS	Los Angeles
78.	October 30, 2013	City Councilmember LaBonge Briefing	AS	Los Angeles
79.	November 5, 2013	US High Speed Rail Association Conference	AS	Los Angeles
80.	November 13, 2013	Councilmember Krekorian Briefing	AS	Los Angeles
81.	November 13, 2013	LA County of Public Works Meeting	AS	Los Angeles
82.	November 14, 2013	Antelope Valley Board of Trade Transportation Committee	GIO	Palmdale
83.	November 21, 2013	LA Union Station Master Plan Coordination Meeting	AS	Los Angeles
84.	November 26, 2013	Update Conference Call with Key Stakeholders Regarding Recent Lawsuits	AS	Los Angeles
85.	December 3, 2013	ASCE LA Chapter Meeting	GIO	Los Angeles
86.	December 3, 2013	L.A. River Meeting (Mayor Garcetti staff, other stakeholders)	AS	Los Angeles

No.	Date	Meeting	Category*	Jurisdiction
87.	December 4, 2013	Palmdale Water District Meeting	AS	Palmdale
88.	December 13, 2013	City of Burbank Engineering & Planning Staff	AS	Burbank
89.	December 20, 2013	Assemblymember Richard Bloom Briefing	EL	Los Angeles
90.	January 7, 2014	Palmdale Station Area Planning Meeting	AS	Palmdale
91.	January 7, 2014	City of Glendale Briefing	AS	Glendale
92.	January 29, 2014	City of Palmdale Coordination Meeting	AS	Palmdale
93.	January 31, 2014	Councilmember Mike Bonin Staff Briefing	EL	Los Angeles
94.	February 3, 2014	Sun Valley Watershed Call	AS	Los Angeles
95.	February 5, 2014	Santa Clarita Stakeholder Working Group Meeting	STO	Santa Clarita
96.	February 6, 2014	San Fernando Valley Stakeholder Working Group Meeting	STO	San Fernando
97.	February 6, 2014	Burbank-Glendale Stakeholder Working Group Meeting	STO	Burbank
98.	February 11, 2014	High Desert Corridor HSR Coordination Meeting	AS	Los Angeles
99.	February 13, 2014	Acton/Agua Dulce Stakeholder Working Group Meeting	STO	Acton
100.	February 26, 2014	Councilmember Jose Huizar Staff Briefing	EL	Los Angeles
101.	March 4, 2014	Downtown LA Stakeholder Working Group Meeting	AS	Los Angeles
102.	March 4, 2014	Northeast LA Stakeholder Working Group Meeting	AS	Los Angeles
103.	March 5, 2014	SFVCOG Mobility Summit	AS	Burbank
104.	March 12, 2014	Briefing for Congressman McKeon Staff	AS	Santa Clarita
105.	March 12, 2014	Meeting at City of Santa Clarita	AS	Santa Clarita
106.	March 14, 2014	Briefing for Congresswoman Hahn Staff	AS	Los Angeles
107.	March 28, 2014	MoveLA Transportation Conversation Event	GIO	Los Angeles
108.	April 2-3, 2014	CA Passenger Rail Forum	GIO	Los Angeles
109.	April 7, 2014	HSR Presentation to Santa Monica Chamber of Commerce's Govt. Affairs Committee	GIO	Santa Monica
110.	April 8, 2014	Briefing for Assemblymember Mike Gatto's Staff	EL	Burbank

No.	Date	Meeting	Category*	Jurisdiction
111.	April 14, 2014	Briefing for Senator Carol Liu's Staff	EL	Glendale
112.	April 15, 2014	Briefing for Senator Alex Padilla's Staff	EL	Van Nuys
113.	April 15, 2014	City of Los Angeles San Fernando TWG	TAG/TWG	Van Nuys
114.	April 16, 2014	Briefing for Assemblymember Steve Fox	EL	Palmdale
115.	April 24, 2014	Briefing for Senator Tony Cardenas and Assemblymember Raul Bocanegra's Offices	EL	Los Angeles
116.	May 3, 2014	Union Station 75 <sup>th</sup> Anniversary/National Train Day	P	Los Angeles
117.	May 5, 2014	Acton/Aqua Dulce Workshop	STO	Acton
118.	May 5, 2014	San Fernando City Council - Public Comment	EL	San Fernando
119.	May 6, 2014	Briefing for Burbank City Council	EL	Burbank
120.	May 13, 2014	Briefing for Councilmember Felipe Fuentes' Staff	EL	Los Angeles

\* **Category Key:**

**AS** = Agency Staff; **EL** = Elected; **GIO** = General Interest Organization; **M** = Media; **P** = Public; **PIM** = Public Information Meeting; **PWG** = Policy Working Group; **SM** = Scoping Meeting; **STO** = Stakeholder Organization; **TAG/TWG** = Technical Assessment/Working Group

## Corridor Cities

### City of Palmdale

The Authority has remained in active communication with the City of Palmdale through routine meetings. Meetings between city staff and members of the Palmdale to Los Angeles team took place on the following dates to continue discussions regarding the alignment alternatives, station options and technical components of the HSR vision: April 24, 2012, July 25, 2012, December 18, 2012, January 8, 2012, May 16, 2013, October 9, 2013, December 4, 2013, January 7, 2014, and January 29, 2014.

Through these dialogues, the City of Palmdale City Council and staff continue to support an alignment via the Antelope Valley that includes a station option in Palmdale. The City has documented its support for the HSR project in writing. Specifically, the City staff and City Council prefer the SR 14 East and SR 14 E/W Hybrid alignment alternatives because each proposes a station at the existing PTC location, which coincides with their current vision to promote connectivity and targeted land uses consistent with the HSR station. In addition to formal briefings with city staff, the Palmdale to Los Angeles team participated in numerous meetings with Metro (and later Caltrans) to coordinate regarding a "wye" between a potential high speed rail connection to Victorville and HSR in Palmdale, and the Palmdale station placement. These meetings occurred on April 18, 2013, May 7, 2013, and February 11, 2014. The Southern California Regional Director continues to meet with Metro, HDC, and XpressWest to coordinate on relevant issues.

### **Towns of Acton and Agua Dulce**

Members of the Acton and Agua Dulce Town Councils have participated in a High-Speed Rail Stakeholder Working Group throughout the Alternatives Analysis process. The Stakeholder Working Group includes stakeholders through the Antelope Valley including elected official staff, the Town Councils of Acton and Agua Dulce, members of the Acton/Agua Dulce Unified School District, and the business community. Prior Stakeholder Working Group meetings include an Acton/Agua Dulce Rally regarding HSR on May 19, 2012 and an Agua Dulce Town Council meeting held on June 13, 2012. The general concerns raised by the Working Group are related to safety, aesthetic, and noise/vibration impacts. In addition, the Working Group members have expressed an interest in approval of the SR 14 E/W Hybrid alignment approved in the April 2012 SAA Report over the SR 14 East alignment because of reduced safety, aesthetic, and noise/vibration impacts; however, they remain concerned about any above-ground alignment in the area. More recently, a Stakeholder Working Group meeting was held in Acton on February 13, 2014. In addition, a workshop with Acton and Agua Dulce stakeholders took place on May 5, 2014.

### **City of Santa Clarita**

Recurring meetings have occurred with the City of Santa Clarita and key stakeholders to ensure an open dialogue remains active through the Alternatives Analysis Process. Since April 2012, meetings with the city took place on the following dates: June 11, 2012 in the form of a City Council Special Meeting on HSR, May 22, 2012 in a staff briefing, February 22, 2013, in an alignment tour within the Santa Clarita city limits with City Council, City staff, and key stakeholders, and October 4, 2013 and March 1, 2014 with the Ad-Hoc City Council Committee on High-Speed Rail and City staff. In addition, the Santa Clarita Stakeholder Working Group met on February 5, 2014.

The City of Santa Clarita City Council has not taken an official position on the project. During dialogues with City staff and members of the City Council, concerns about impacts, such as visual, noise/vibration and safety, have been raised. City staff, City Council, and key stakeholders have also expressed concerns that the City is not receiving commensurate benefits from the project. These concerns were expressed in the briefing on October 4, 2013 and at the Authority Board Meeting on October 14, 2013. In addition, discussion by City staff and City Council members regarding the benefit of introducing station connectivity between the HSR system and current Metrolink stations has arisen given the interest in identifying how residents would access a HSR system. Along with such comments regarding the larger elements of the proposed project, City staff and members of City Council are also concerned about potential impacts to the Sand Canyon community along Sand Canyon Road that are crossed by the April 2012 SAA alignments. During an alignment tour of Sand Canyon and Santa Clarita on February 22, 2013 with City Council, City staff and key stakeholders, tour attendees shared their interest in tunnel alignment alternatives along with their concerns related to displacement, visual, and noise impacts to schools and residences (existing and planned).

### **City of San Fernando**

The City of San Fernando remains a key stakeholder within the Palmdale to Los Angeles Corridor. Due to changes in City leadership, formal briefings were not held with city staff between April 2012 and October 2013; however, a formal briefing of the HSR project was provided to the San Fernando Valley Council of Governments Board of Directors on September 13, 2012, of which the City of San Fernando is a participating member. A briefing for City staff, the current Mayor and one City Councilmember was held on October 21, 2013, where they were updated on the project and expressed concerns about potential impacts on the city without commensurate benefits if the station location is not San Fernando. On May 5, 2014, outreach staff attended the San Fernando City Council meeting to announce the upcoming community meetings, including the one scheduled for San Fernando on May 20, 2014.

### **City of Burbank**

The Palmdale to Los Angeles team has continued its dialogue with the city staff and members of City Council throughout the Alternatives Analysis process to ensure alignment alternatives and the Burbank

station options are thoroughly vetted and feedback is gathered. The most recent meetings with city representatives occurred on: April 30, 2012, and May 7, 2012 in the form of elected official briefings, May 17, 2012 and August 22, 2012 in the form of a HSR Subcommittee meeting with City staff and members of the City Council, and on April 25, 2013, October 1, 2013 and December 13, 2013 with City staff. In addition, the Palmdale to Los Angeles team has briefed representatives from the Bob Hope Airport separate from the city staff on the following dates to ensure they are aware of the station options and alignment alternatives as they conduct their Master Planning process: April 30, 2012 and January 17, 2013.

The City Council has remained neutral on the HSR project and the proposed Burbank Airport Station option in the San Fernando Valley. The Southern California Regional Director briefed the Burbank City Council on May 6, 2014, providing an update on the project, status, and upcoming community meetings. Items that have been noted from Bob Hope Airport representatives include connectivity to a planned regional intermodal facility and a single track station with bus service from the terminal. City and airport staff have confirmed that the location close to the existing Bob Hope Airport is suitable for redevelopment and could become a regional hub connecting rail, air, and road modes of transportation. The Palmdale to Los Angeles team has coordinated with City staff on City infrastructure projects, including the planned Burbank and Magnolia bridge work.

The Palmdale to Los Angeles team has also continued stakeholder outreach in this area and the Burbank-Glendale Stakeholder Working Group re-convened on February 6, 2014.

### **City of Glendale**

The Palmdale to Los Angeles team has continued to update the City of Glendale through direct interaction with city staff throughout the Alternatives Analysis Process. On June 13, 2012 and January 7, 2014 the Palmdale to Los Angeles team briefed city staff regarding the proposed alignment alternatives, station options and proposed grade separations within or adjacent to the city.

Overall, staff remains supportive of the HSR project and is interested in maintaining an open dialogue with the Palmdale to Los Angeles team along with the City of Burbank and with representatives from the Bob Hope Airport.

### **City of Los Angeles**

In the form of two Technical Working Groups (SR134-LAUS and San Fernando Valley), briefings with the Mayor's office and City Councilmembers, and a collaborative relationship with the City of Los Angeles departments of Planning, Transportation, and Bureau of Engineering on an individual level, the City of Los Angeles has been briefed throughout the SAA process and remains a key stakeholder as alignment alternatives, station options and interconnectivity with other transit and development projects remains a top priority. The most recent meetings have taken place on the following dates:

- April 5, 2012, May 1, 2012 and October 30, 2013: Councilmember LaBonge and staff
- May 22, 2012: Mayor Villaraigosa staff
- July 26, 2013: Los Angeles River Urban Watershed group
- August 16, 2012: Downtown Los Angeles Neighborhood Council Transit Forum
- August 30, 2012: Los Angeles River Project team
- January 28, 2013: City of Los Angeles Ad Hoc River Committee
- January 29, 2013: Presentation to the City of Los Angeles Council Planning and Land Use Management (PLUM) Committee
- May 30, 2013: San Fernando Valley Technical Working Group
- June 14, 2013: SR134-LAUS Technical Working Group
- July 12, 2013: San Fernando Valley Technical Working Group
- July 19, 2013: Mayor Garcetti Staff Briefing
- September 19, 2013: SR134-LAUS Technical Working Group
- October 23, 2013: Councilmember Fuentes staff

- October 23, 2013: Councilmember Huizar staff
- October 23, 2013: Councilmember Martinez staff
- November 13, 2013: Councilmember Krekorian and staff
- December 3, 2013: Meeting with Mayor Garcetti staff and other interested parties related to the L.A. River Revitalization project
- January 31, 2014: Councilmember Bonin staff
- February 26, 2014: Councilmember Huizar staff
- April 15, 2014: San Fernando Valley Technical Working Group
- May 13, 2014: Councilmember Fuentes staff

Through these dialogues, city staff is supportive overall of the HSR project given the TOD and job creation opportunities, especially with the option of a station within the City of Los Angeles boundary; however, concerns remain related to impacts caused by the design of the alignment alternatives and the location of the station between Sylmar and LAUS. Specifically, some members of the city council along with city staff are concerned with impacts to adjacent businesses within the San Fernando Valley, traffic congestion, grade separation impacts, possible interference with water crossings, horse crossings, interaction with the LAUS and the surrounding land uses and impacts to the bike path currently being constructed in the Metro ROW through the San Fernando Valley.

#### **Select Elected Officials - Los Angeles County Board of Supervisors**

From the inception of the project through the Alternatives Analysis process, the Palmdale to Los Angeles team has maintained ongoing communications with Supervisor Antonovich's office given that the location of the proposed alignment alternatives fall within his jurisdiction. As a result of the frequent dialogue with district staff regarding alignment alternatives and station options, staff has shared their appreciation for the robust analysis of alignment and station alternatives and the outreach performed within the Supervisor's district and remains interested in further dialogues surrounding an Antelope Valley alignment with a station in Palmdale. A desire for early investments (e.g. grade separations) in the San Fernando Valley also remains. The most recent briefings with the Supervisor's staff occurred on January 14, 2013 and October 8, 2013. In addition, the Southern California Regional Director participated in Supervisor Antonovich's Quarterly Transportation Summits in the Antelope Valley on October 2, 2013, January 8, 2014, and April 23, 2014. The Palmdale to Los Angeles team has also reached out to the Supervisor's office regarding the Permission to Enter process and the community meetings scheduled for May/June 2014.

Additional meetings have occurred with County department staff, such as Department of Public Works, with the most recent meetings having taken place on August 22, 2013, October 1, 2013 and November 13, 2013. At the August 22, 2013 meeting, the Palmdale to Los Angeles team provided an overview of the project, the status of the environmental process and key issues in various areas along the alignment. At the August, October and November meetings, the LA County Department of Public Works discussed upcoming County projects and the relationship between such projects and the proposed alignments and station options. On February 3, 2014, County staff participated in a phone meeting with the Palmdale to Los Angeles team wherein the team informed the County staff that the alignments had been adjusted to avoid key areas of concern. County staff is interested in further discussions with the Palmdale to Los Angeles team and coordination will be ongoing.

#### **Select Agencies - Los Angeles County Metropolitan Transportation Authority (Metro) and Metrolink**

The Palmdale to Los Angeles team has continued to work closely with Metro and Metrolink staff throughout the Alternatives Analysis process and often partners with Metro in various stakeholder discussions. Since April 2012, formal discussions with Metro and Metrolink took place on the following dates:

- April 18, 2012 regarding grade separations in Burbank just north of SR 134;
- April 30, 2012 regarding the Bob Hope Airport;

- May 17, 2012 in the form of an “over the shoulder” review of the alignment alternatives and station options;
- June 13, 2012 with USACE and Metrolink;
- June 19, 2012 in the form of an “over the shoulder” review with Metrolink;
- July 10, 2012 in the form of a monthly outreach coordination meeting with other Regional Consultant outreach teams;
- July 19, 2012 to discuss further design elements and options in the San Fernando Valley;
- July 30, 2012 with Metrolink;
- August 16, 2012 regarding the Union Station Master Plan;
- October 3, 2012 with Metrolink;
- October 10, 2012 in the form of a monthly outreach coordination meeting with other Southern California outreach teams;
- December 19, 2012 in the form of a monthly outreach coordination meeting with other Southern California outreach teams;
- February 12, 2013 in the form of a monthly outreach coordination meeting with other Southern California outreach teams;
- March 12, 2013 in the form of a monthly outreach coordination meeting with other Southern California outreach teams;
- March 13, 2013 with Metrolink;
- April 9, 2013 in the form of a monthly outreach coordination meeting with other Regional Consultant outreach teams;
- April 15, 2013 to discuss stakeholder working groups in the San Fernando Valley;
- April 18, 2013 with Metro and Caltrans regarding the HDC and Palmdale coordination;
- April 26, 2013 with Metrolink;
- May 7, 2013 with Metro and Caltrans regarding the HDC and Palmdale;
- June 11, 2013 in the form of a monthly outreach coordination meeting with other Southern California outreach teams; and
- July 9, 2013 in the form of a monthly outreach coordination meeting with other Southern California outreach teams;
- August 13, 2013 in the form of a monthly outreach coordination meeting with other Southern California outreach teams.
- September 19, 2013 through Metro’s attendance at the SR134-LAUS Technical Working Group meeting with City of Los Angeles staff.
- October 8, 2013 in the form of a monthly outreach coordination meeting with other Southern California outreach teams.
- November 14, 2013 in the form of a coordination meeting with Metro, HDC and XpressWest
- November 15, 2013 in the form of a coordination meeting with Metro regional rail staff
- December 12, 2013 in the form of a coordination meeting with Metro, HDC and XpressWest

Through these meetings with project staff, Metro staff has stated their preference for locating the HSR tracks on the west side of the Metro right-of-way (ROW) through the San Fernando Valley. Their main concerns for locating the HSR on the east side of the ROW is that it would cut off existing and potential rail freight customers for UPRR who have rights to operate on the Metro ROW, in addition to acquiring additional ROW for Metro to relocate their tracks to the west side of the ROW before HSR construction begins.

In Palmdale, Metro staff supports the City staff and City Council in their preference of either the SR 14 East or SR 14 E/W Hybrid alignments because of the connection to the existing PTC with passenger connections.

### **High Desert Corridor Joint Powers Authority**

At the November 30, 2012 meeting of the High Desert Corridor Joint Powers Authority Board of Directors, the Board voted to recommend support for the northeast HSR station location, noting that this station would allow for a potential nonstop trip from LA Union Station to Las Vegas.

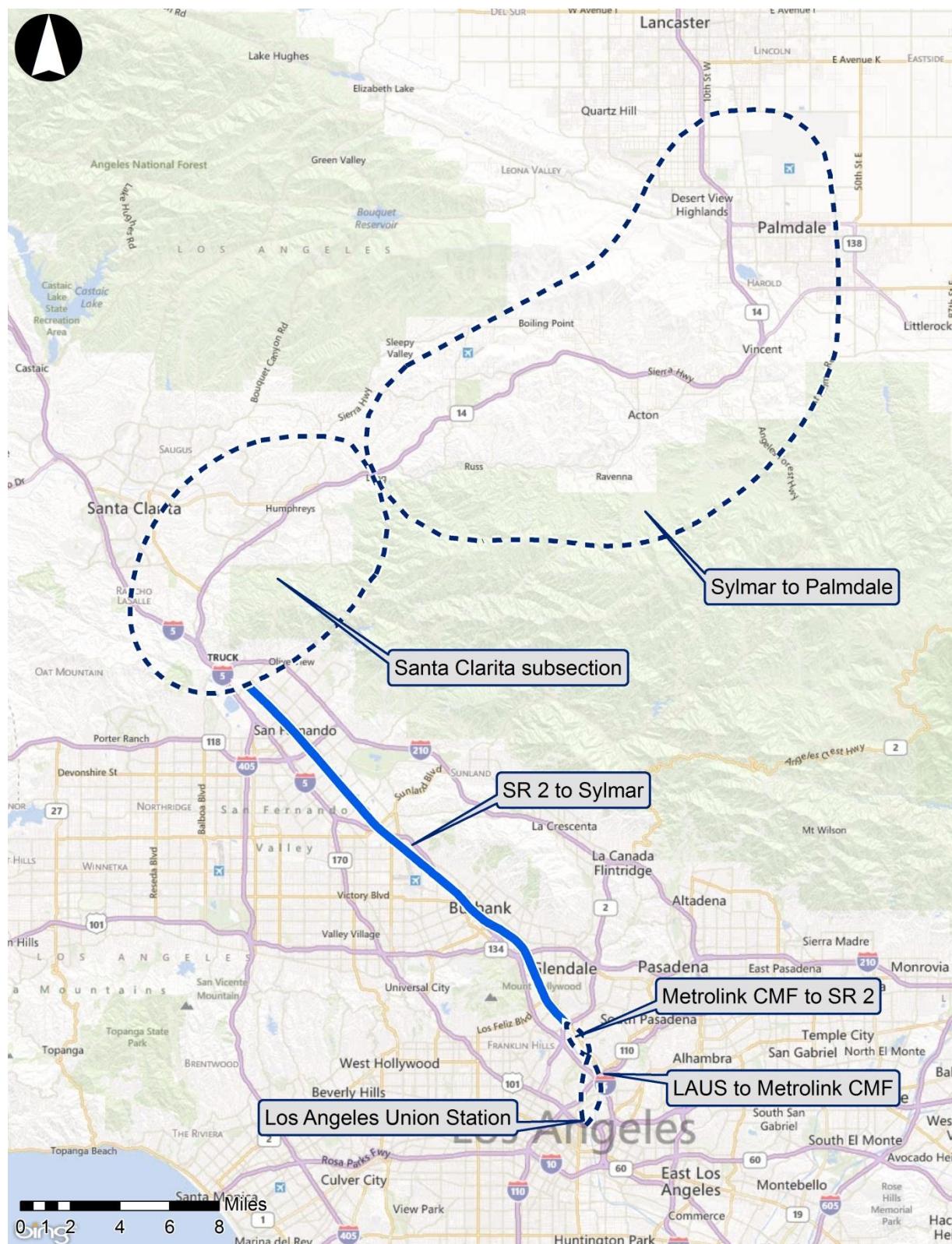
### **1.7 Previously Identified Alternative Alignments – Background**

In the PAA of 2010, the Palmdale to Los Angeles HSR Section was divided into four subsections to facilitate analysis of potential alignment alternatives, station locations, and design options. The April 2012 SAA divided the Sylmar to Palmdale subsection into two, at a location two miles east of Lang Station Road, now called the Santa Clarita subsection and Palmdale subsection. The approximate geographic limits for each subsection are points where the HSR alignment alternatives converge, such that alignment alternatives for each subsection could be combined with those from adjacent subsections to create end-to-end project section alternatives. The subsections as of the 2012 SAA are listed below, north to south, and are shown in Figure 1-2 below:

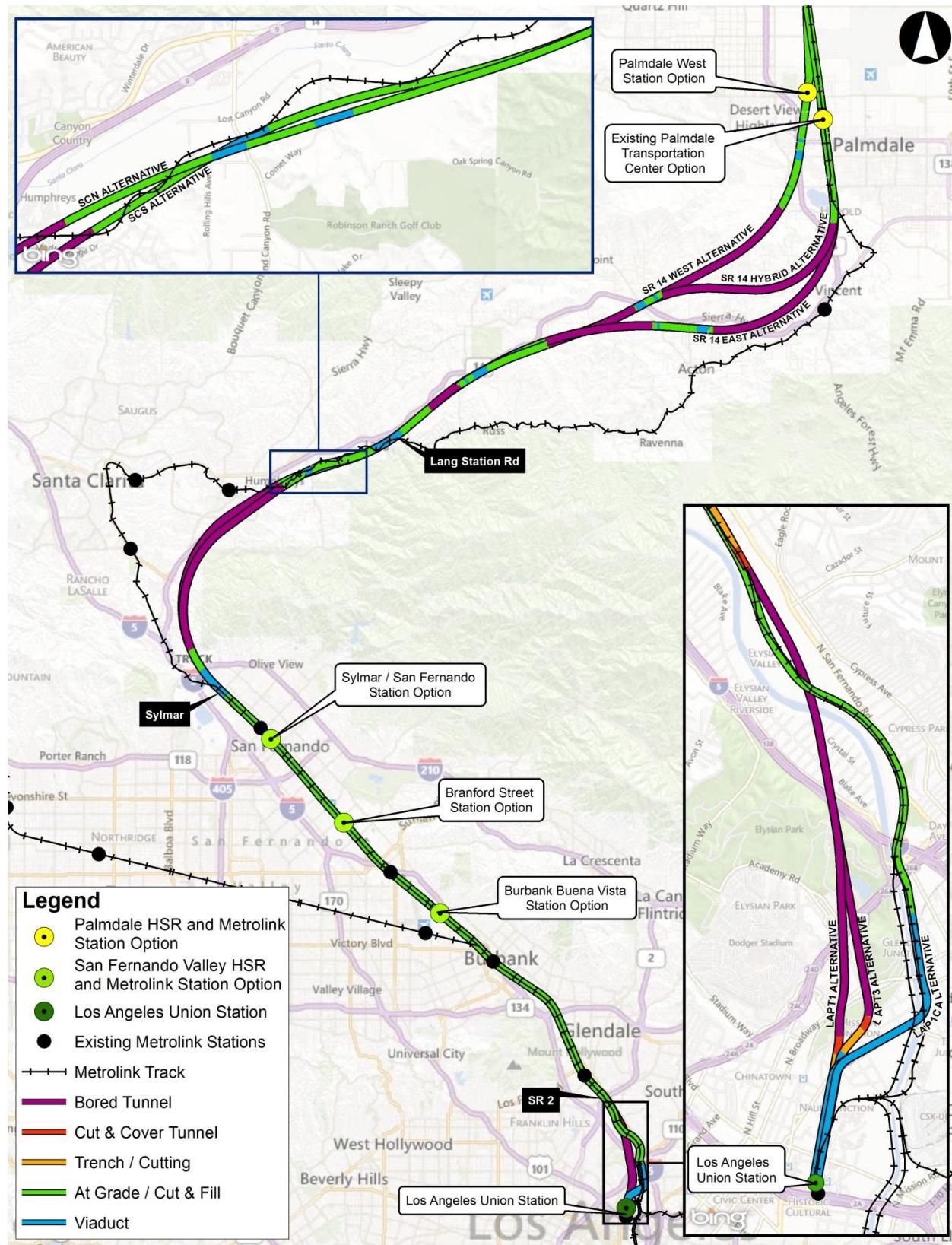
- Palmdale
- Santa Clarita
- Sylmar to SR 2
- SR 2 to Metrolink Central Maintenance Facility (CMF)
- Metrolink CMF to LAUS

Figure 1-3 shows the alternatives as identified in the April 2012 SAA to be carried forward for analysis in future environmental documentation. An all-inclusive list of the alternatives previously identified through the AA process is identified in Table 1-3 below, along with the recommendations of this 2013 SAA.

## **Figure 1-2 Previous Los Angeles to Palmdale Subsections**



**Figure 1-3 Previously Identified Alignments and Stations in the April 2012 SAA**



**Table 1-3 Palmdale to Los Angeles Corridor Alignment Alternatives and Station Options**

Alignment Alternatives and Station Options	Carried Forward	Withdrawn
<b>Palmdale to Sylmar Subsection (PAA)</b>		
<i>Alignment Alternatives</i>		
SR 14 East	X	
SR 14 West	X	
SR 14 South		X
Soledad Canyon		X
<i>Station Options</i>		
Palmdale East/Palmdale Transportation Center	X	
Palmdale West	X	
<b>Palmdale Subsection (SAAs)</b>		
<i>Alignment Alternatives</i>		
SR 14 East	SAA 2011, 2012, 2013	
SR 14 Hybrid	SAA 2012, 2013	
SR 14 West	SAA 2011, 2012	SAA 2013
<i>Station Options</i>		
Palmdale East/Palmdale Transportation Center	SAA 2011, 2012, 2013	
Palmdale West	SAA 2011, 2012	SAA 2013
<b>Santa Clarita Subsection (SAAs)</b>		
Santa Clarita North Alternative	SAA 2012, 2013	
Santa Clarita South Alternative	SAA 2012, 2013	
Sand Canyon River Alignment Alternative		SAA 2012
<b>San Fernando Valley Subsection (PAA and SAAs)</b>		
<i>Alignment Alternatives</i>		
HSR to the East of Metrolink	All AAs	
HSR to the West of Metrolink	SAA 2013	PAA
<i>Station Options</i>		
San Fernando	PAA, SAA 2011, 2012	SAA 2013
Pacoima Wash		SAA 2011
Branford Street	PAA, SAA 2011, 2012	SAA 2013
Burbank Airport	All AAs	
Burbank Metrolink	PAA	SAA 2011
<i>Alignment Vertical Profile Options</i>		
Profile A – at-grade with HSR elevated	All AAs	
Profile B1 – at-grade with roads elevated	All AAs	
Profile B2 – at-grade with roads depressed	All AAs	
Profile C – at-grade with HSR depressed	All AAs	
<b>Los Angeles Subsection</b>		
<i>SR 2 to Metrolink CMF Alignment Alternatives (Surface alignments are HSR east of Metrolink)</i>		
Metrolink At-Grade	All AAs	
Metrolink in Trench	PAA	SAA 2011
San Fernando Road in Trench	PAA	SAA 2011
Tunnel	SAA 2011, 2012, 2013	
<i>Metrolink CMF to LAUS</i>		
<i>Alignment Alternatives</i>		
LAPT1	All AAs	
LAPT2	PAA	SAA 2011

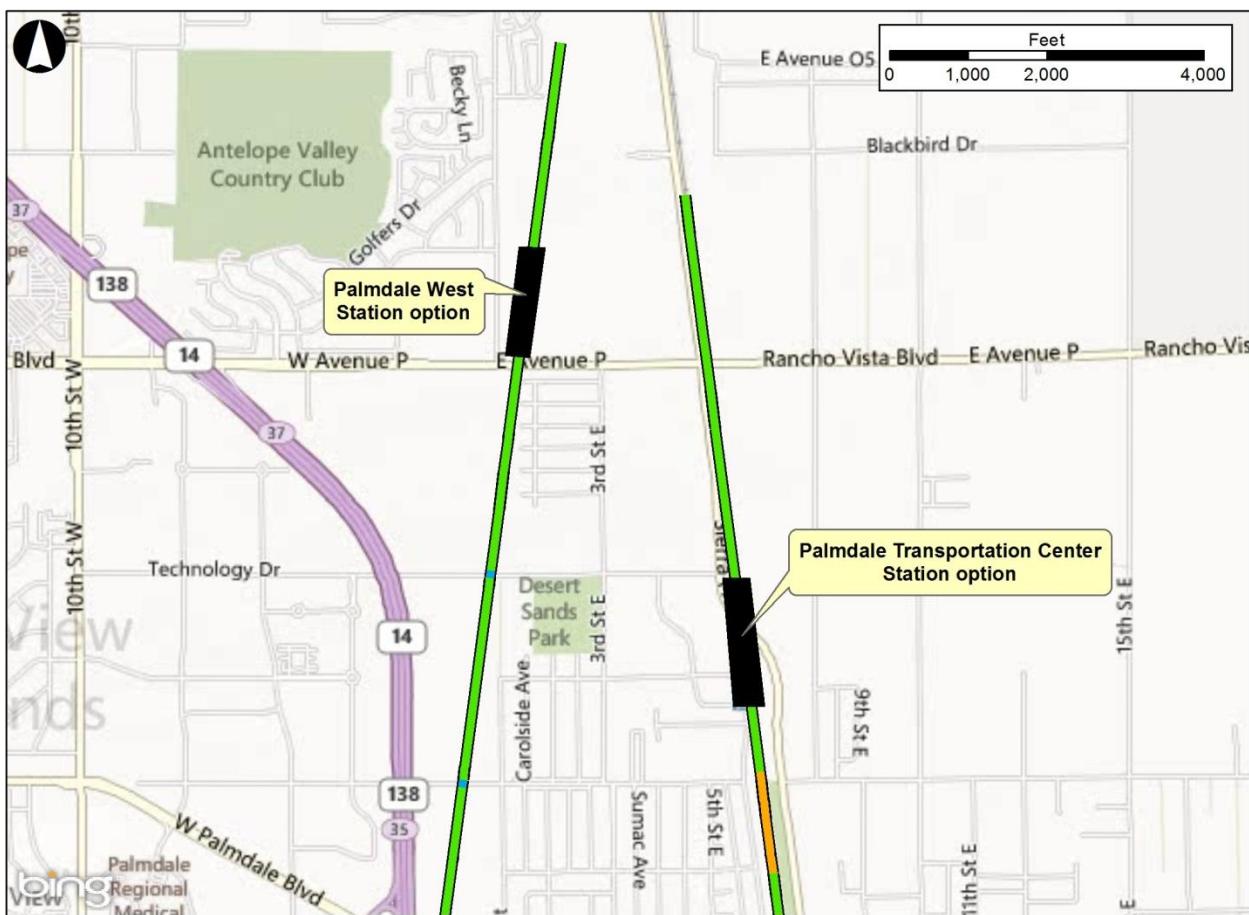
Alignment Alternatives and Station Options	Carried Forward	Withdrawn
LAPT3	All AAs	
LAP1A		PAA
LAP1B		PAA
Surface (LAP1C)	All AAs	
<i>LAUS Options (Los Angeles to Anaheim AAs)</i>		
Aerial Station above Existing LAUS	LA-A PAA, LA-A SAA	
Deep Tunnel Station below Existing LAUS		LA-A PAA
LA River West Bank Station		LA-A PAA
LAUS At-Grade Station	LA-A SAA	
Vignes Aerial Station		LA-A SAA
Sources:		
Palmdale to Los Angeles SR 134 to LAUS Alternative Analysis, 2009;		
Palmdale to Los Angeles Preliminary Alternative Analysis, 2010;		
Palmdale to Los Angeles Supplemental Alternative Analysis, 2011;		
Palmdale to Los Angeles Supplemental Alternative Analysis, 2012;		
Palmdale to Los Angeles Supplemental Alternative Analysis, 2013;		
Los Angeles to Anaheim Preliminary Alternative Analysis, 2009;		
Los Angeles to Anaheim Supplemental Alternative Analysis, 2010.		

## 2 PALMDALE SUBSECTION

The April 2012 SAA Report documents three alignment alternatives and two station options between Palmdale and Santa Clarita. The alignment alternatives are SR 14 East, SR 14 West, and SR 14 E/W Hybrid. The station options are Palmdale West and the existing Palmdale Transportation Center (PTC). The Palmdale West station option would be utilized by the SR 14 West alignment alternative, while the existing PTC would be utilized by the SR 14 East and SR 14 E/W Hybrid alignments (Figure 2-1).

Subsequent to the April 2012 SAA, the HDC (a Measure R project) incorporated high-speed rail into its environmental analysis, and the City of Palmdale incorporated the Transit Village Specific Plan elements into the City's General Plan. These actions have placed an emphasis on the importance of the transit interconnectivity and adopted land uses at the PTC. Additionally, Metro staff and the City of Palmdale have expressed their preference for an HSR alignment that utilizes the existing PTC site, as evidenced by the recent local planning efforts discussed in Section 2 of this report. The PTC location provides connectivity to Metrolink, a closer location to the center of Palmdale, and the ability to create an interoperable connection to the potential HDC project, thus supporting a direct interstate high-speed rail connection. The three project alignments and two station options for this subsection have been examined in light of these concerns and the project purpose and need.

**Figure 2-1 Palmdale West and Palmdale Transportation Center Station Locations**



### Current Planning

There are several complementary transportation and land use studies underway in the area. These include:

- Metro TOD Grant for a Palmdale TOD Overlay Zone around the PTC. This work is intended to create a TOD Overlay Zone for the area around the PTC and the Palmdale Regional Airport.
- Southern California Association of Governments (SCAG) Sustainability Program Grant – Avenue Q Feasibility Study. This work is for Mixed-use; integrated planning with the intention of improving economic development and reduce greenhouse gases.
- Metro North County Multi-Modal Integrated Transportation Study, scheduled initiation in Fiscal Year (FY) 2014. This comprehensive study includes several coordinating elements, including:
  - Update of the North County Combined Highway Corridors Study
  - Airport Ground Access Study
  - Feasibility Study for Inland Port Facility
  - Fixed Guideway Study, including High Speed Rail, Metrolink and freight rail
- Measure R Project (\$33 million) HDC Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR phase, scheduled for release summer 2014; Final EIS/EIR scheduled for

release Winter 2014/2015). The HDC is intended to serve population growth within the High Desert Region, and regional demands for goods movement by addressing the limited and unreliable east-west connectivity within the region.

In September 2010, Caltrans, Metro, San Bernardino Associated Governments (SANBAG) and partner agencies initiated the Draft Environmental Impact Statement/Report (Draft EIS/EIR) and the Alternatives Analysis (AA) to evaluate HDC alternatives that could address the region's recent population and economic growth, and improve transportation infrastructure to facilitate goods movement (Figure 2-2). In 2012, Metro's Board amended the project to include a multipurpose corridor that can accommodate a highway, energy production and/or transmission facilities and a high-speed rail feeder service line. A Rail Alternatives Analysis is underway, which will consider the high-speed rail feeder service options and identify feasible rail connections to the PTC in Palmdale and the proposed XpressWest station in Victorville. This would create the potential to connect the San Francisco, Central Valley, Los Angeles, Las Vegas and San Diego regions through a high-speed rail system. The High-Speed Rail feeder service alternatives would be interoperable between XpressWest and California HSR (potentially offering a one-seat high-speed rail trip between Las Vegas and Los Angeles).

In addition, efforts are underway to identify local routes for a bikeway that can connect the bicycle master plan routes of the cities and unincorporated areas along the HDC. Several other studies are being completed to evaluate the proposed green energy concepts and financing plans.

This HDC project includes the following alternatives:

- No Build Alternative
- Transportation Systems/Demand Management (TSM/TDM) Alternative
- Freeway/Expressway Alternative (Avenue P-8, Interstate-(I-)15 and SR-18) (With 4 Variations)
- Freeway/Tollway Alternative (Avenue P-8, I-15 and SR-18)
- Freeway/Expressway Alternative with High Speed Rail Feeder Service
- Freeway/Tollway Alternative with High Speed Rail Feeder Service
- Hybrid Corridor Alternative

The figure below shows the conceptual HDC project (Los Angeles County segment only).

### Recent Planning

The City of Palmdale has completed several planning efforts to emphasize transit oriented development and multimodal integration at, near and adjacent to the PTC. These include:

- Multimodal Transportation Center Feasibility Report and Site Location Study (1998). This study analyzed over 30 sites to develop a transportation center and prioritized the current PTC location based on 17 evaluation criteria.
- Palmdale Transit Village Specific Plan (Figure 2-3). This plan, adopted into the City's General Plan in 2012, sets the framework for policies to maximize the efficiency of land surrounding the Transportation Center, while promoting new development, open spaces and streets that are attractive, vibrant and safe for all users.

The build out concept of the Palmdale Transit Village Specific Plan (from the Land Use and Community Character chapter) is shown below with an indication of the location of the HSR tracks and station platforms.

**Figure 2-2 High Desert Corridor (in Los Angeles County)**



**Figure 2-3 Palmdale Transit Village Specific Plan**



## 2.1 Description of Station Options

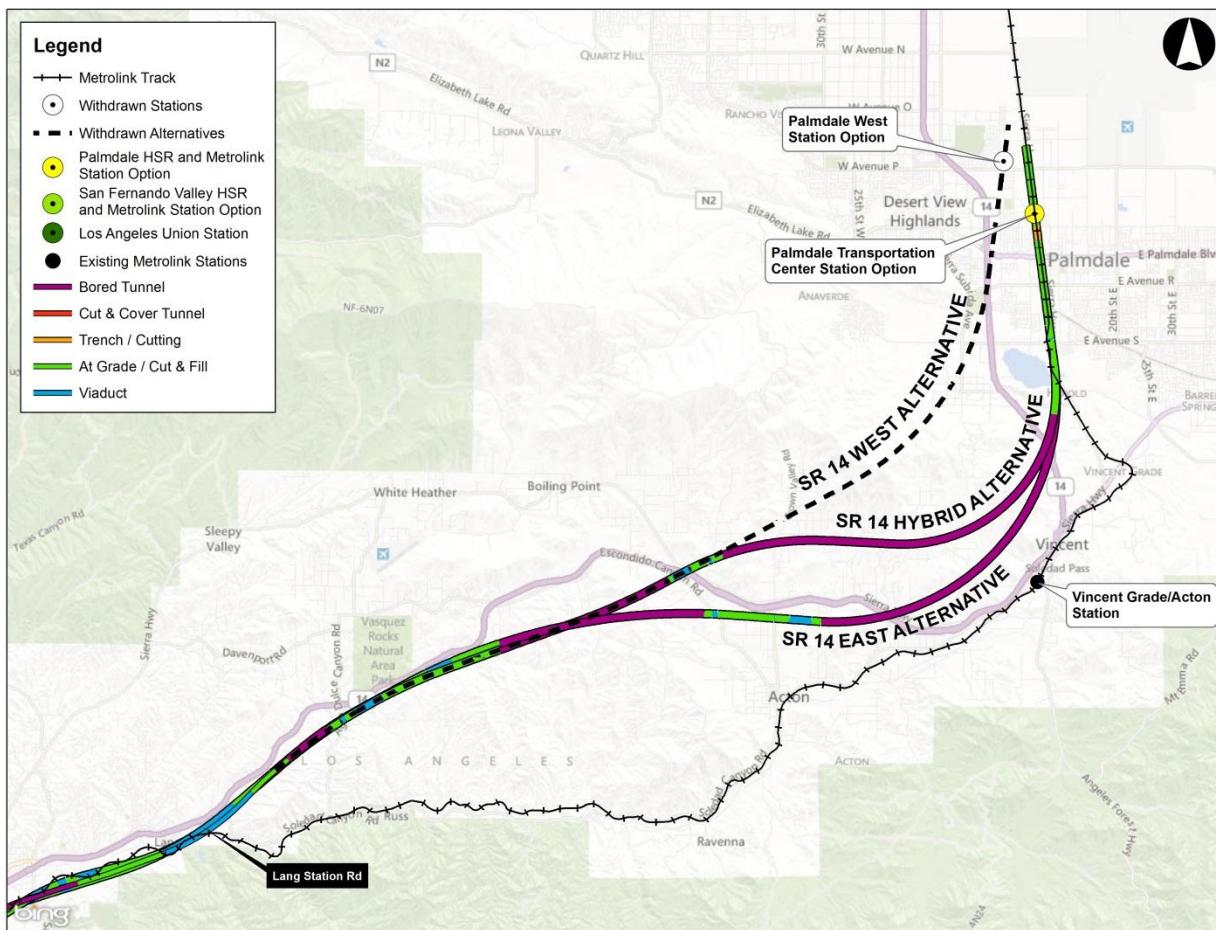
The description of the two station options has not changed since the PAA. For this reason, a detailed description will not be provided; however, an evaluation comparison is included below in the alignment evaluations.

The supporting past and current planning in the area surrounding the PTC are described at the introduction of this section.

## 2.2 Description of Alignment Alternatives

Figure 2-4 shows the alignment alternatives through this subsection.

**Figure 2-4 Palmdale Subsection Alignment Alternatives**



### ***SR 14 East Alignment***

In Palmdale, this alternative would follow the Metro/UPRR ROW with a station at the PTC. North of Palmdale Boulevard, the alignment would accommodate the at-grade Palmdale Station alternative in the vicinity of the existing Palmdale Metrolink Station. At the north end of the station, where Sierra Highway crosses the existing UPRR, the highway would need to be grade separated over or under HSR. North of the San Andreas Fault zone, the alignment would continue at-grade on the west side of the UPRR as far

as Avenue R where a grade-separated junction would need to be provided for Avenue R to pass over or under HSR. A similar grade separation would be needed at Palmdale Boulevard.

South of Lake Palmdale, the HSR would enter the San Andreas Fault zone. The crossing of this fault must be essentially "at-grade," i.e. on low embankment, in shallow cut, or at-grade. As a result of this constraint and to avoid the need to put HSR on a structure to cross the existing railroad, highway, or Lake Palmdale, the alignment of the Metrolink tracks and Sierra Highway would need to be realigned to run along the east side of the HSR as far as the junction with the UPRR north of Avenue S. This would potentially require some reconstruction of the southern end of the dam that creates Lake Palmdale, and may require some construction within Una Lake. The intersection of the Sierra Highway and Avenue S would need to be lowered such that Avenue S passes beneath the HSR.

The alignment would then enter into a six-mile tunnel, pass beneath the California Aqueduct, and curve westward through the San Gabriel Mountains toward the Community of Acton. The alignment would emerge from tunnel approximately one-mile west of the SR 14 Highway, continue through the northern part of Acton on viaduct, and pass the south corner of Vasquez High School.

The PAA SR 14 East alternative crossed the southern edge of the Vasquez High School development about 75 feet from the nearest proposed school facilities, and was 600 feet from the High Desert school property in Acton. The 2012 SAA refined this alternative to avoid directly impacting the Vasquez High School property, lowered HSR by approximately 20 feet, and moved it approximately 600 feet from the proposed school facilities.

The alignment would then enter a four-mile long tunnel to pass beneath the Santa Margarita Canyon, emerging near Big Springs Road in Acton and continuing south-southwest toward Santa Clarita.

#### ***SR 14 E/W Hybrid Alignment***

The SR 14 E/W Hybrid alternative would follow the SR 14 East alignment in Palmdale via the Metro/UPRR ROW with a station at the PTC. It would then continue to follow the SR 14 East alignment past Palmdale Lake and enters into tunnel just north of the California Aqueduct. From here it would separate from the SR 14 East alignment and turn westward to pass north of the SR 14 Highway and the Community of Acton. This alternative would avoid impacts to Vasquez and High Desert Schools, and have an approximately seven-mile long tunnel with a 175 miles per hour (mph) design speed, resulting in a 20 second (less than 5%) journey time penalty compared to the SR 14 East alignment that has a 220 mph design speed. The alternative would cross the SR 14 West Highway where it meets Sierra Highway and continue south-southwest toward Santa Clarita.

#### ***SR 14 West Alignment***

This alternative would begin south of Avenue O in Palmdale and create a new station just north of Rancho Vista Boulevard (E. Avenue P) and west of Sierra Highway. Technology Drive and Rancho Vista Boulevard would need to be grade separated from HSR. The alignment would originate from an at-grade station option and rise steeply to cross SR 138 at its interchange with the SR 14 highway on viaduct. It would continue south, passing west of Lake Palmdale and crossing over the California Aqueduct.

Near the California Aqueduct, the crossing of the San Andreas Fault zone must be essentially "at-grade," i.e. on low embankment, in shallow cut, or at-grade. The alignment would cut through the low hills that are formed at the fault in this location, and then transition into tunnel approximately one-half mile south of the aqueduct.

The alignment would completely avoid the developed area of Acton, passing to the north, but would impact several rural residential properties in the Red Rover Mine area. The PAA SR 14 West alternative in Acton is about 2,850 feet from Vasquez High School, and was previously refined to avoid the Ward Road

interchange bridge, without additional direct residential impacts. At the alignment's interchange with the SR 14 Highway northwest of Acton, it would join the alignment of the SR 14 E/W Hybrid alternative and continue south-southwest toward Santa Clarita.

## 2.3 Evaluation of Alignment Alternatives and Station Options

### *Summary of Alternatives*

There are two station alternatives in Palmdale, one at PTC and the other at Palmdale West. The West station would only be served by the SR 14 West Alignment; The PTC would be served by either the SR 14 East Alignment or the SR 14 E/W Hybrid Alignment. The PTC station location would provide interconnectivity to the existing Metrolink and transit network, is supported by the recent local planning efforts discussed in Section 2 of this report that emphasize transit oriented development and multimodal integration, provides the potential for an interstate, HSR connection between Los Angeles and Las Vegas, and is favored by the City of Palmdale and regional partners of Metro and the Joint Powers Authority (JPA) Board of the High Desert Corridor, due to its potential interoperability with the HSR at PTC. The interconnectivity, supportive land use and local support factors demonstrate that PTC is consistent with the HSR project purpose and need. The Palmdale West Station Option and the SR-14 West Alignment would not connect to the PTC or existing transit systems, nor has the location received the documented support from local and regional jurisdictions. Based on these factors, only the PTC station and associated East and E/W Hybrid alignments are carried forward for further consideration.

### ***SR 14 East Alignment and the Palmdale Transportation Center Station Option***

This alignment would be longer and more expensive than the SR 14 West and SR 14 E/W Hybrid alignment alternatives, creating impacts to the edges of both Una Lake and Lake Palmdale, and requiring the re-alignment of existing Metrolink and UPRR tracks. Accommodating these tracks would require continued coordination with UPRR to achieve a successful station configuration. SR 14 East would have higher impacts to water resources than the SR 14 West alternative due to the impacts of both Una Lake and Lake Palmdale. It also would have the highest number of residential sensitive receptors for noise and vibration in the Acton/Agua Dulce area. However, this alignment would utilize an HSR station at the existing PTC, which is closer to the Palmdale Regional Airport than the Palmdale West station location, provides a direct connection to Metrolink service, and provides an opportunity for transfer to the proposed HDC project. Table A-1 in Appendix A contains additional evaluation comparisons.

The intermodal connectivity of the SR 14 East Alignment would achieve the HSR objective of integrating HSR with existing intercity and regional rail systems. Providing a direct connection to the existing PTC helps meet this priority. The PTC also allows for a high potential of TOD near the station. Furthermore, the SR 14 East alignment and station location would be consistent with City of Palmdale plans and policies to promote TOD at this location per the Palmdale Transit Village Specific Plan.

For the reasons above, the SR 14 East alignment and PTC station option would meet the following goals of the HSR project:

- Maximize intermodal transportation opportunities by locating stations in areas with good access to local mass transit or other modes of transportation.
- In order to reduce impacts on communities and the environment, the alignment shall follow existing transportation or utility corridors to the extent feasible.
- Provide intercity travel in a manner that minimizes urban sprawl, is sensitive to and protective of the region's natural resources, and reduces emissions and vehicle miles traveled for intercity trips.

Additionally, Metro staff, the HDC JPA Board, and the City of Palmdale support this alternative and its ability to serve the PTC. For these reasons, **this alternative is carried forward for further consideration**. Please see Table 7-1 at the end of this document which provides an alternatives evaluation summary.

### ***SR 14 E/W Hybrid Alignment and the Palmdale Transportation Center Station Option***

This alignment would be identical to the SR 14 East alignment through the City of Palmdale, including a station at the PTC, but it would then turn west more sharply than the SR 14 East alignment south of Lake Palmdale to remain on the north side of SR 14 through Acton. It would then then connect to the southern end of the SR 14 West alignment. Due to this same alignment as SR 14 East through Palmdale, the SR 14 E/W Hybrid alternative would require continued coordination with UPRR and would have higher impacts to water resources than the SR 14 West alternative due to the impacts of both Una Lake and Lake Palmdale. This alternative was proposed to reduce impacts to the Community of Acton but would introduce a 20 second journey time penalty as compared to the SR 14 East alternative due to tighter curve radii south of Palmdale. It would have the fewest acres of parkland resources within 1,000 feet of the alignment (potential indirect impacts). Table A-1 in Appendix A contains additional evaluation comparisons.

Since this alignment also follows the existing railroad ROW through Palmdale, and serves the PTC, the intermodal, TOD, and supportive land use benefits of this alignment (and local and regional support) are the same as SR14 East described above, and allow the SR 14 E/W Hybrid alignment to meet the same project goals. For these reasons, **this alternative is carried forward for further consideration**. Please see Table 7-1 at the end of this document which provides an alternatives evaluation summary.

### ***SR 14 West Alignment and the Palmdale West Station Option***

This alignment would cover the shortest distance of this subsection, would be the least expensive option, would have the fastest journey time, and would avoid impacts to Lake Palmdale and Una Lake. It also would have the fewest acres of parkland resources within 100 feet of the alignment and station (potential direct impacts), and reduce impacts to the Community of Acton. However, the alignment would have the largest number of impacts to agricultural lands within a ½-mile (92 acres). There are no agricultural lands within a ½-mile of the station. Table A-1 in Appendix A contains additional evaluation comparisons.

The Palmdale West Station Option and the SR 14 West Alignment would not connect to Metrolink or the existing bus network at the PTC, and therefore does not meet one of the HSR project purpose and need of interconnectivity with the existing transportation system. The West station location is not supported by the land uses that emphasize transit oriented development, as evidenced by the recent local planning efforts discussed in Section 2 of this report. The West station would not provide future flexibility of the PTC to perform as an interoperable interstate high-speed rail transportation hub between Las Vegas and Los Angeles. Additionally, Metro staff, the HDC JPA Board of Directors, and the City of Palmdale have expressed support for the HSR station location at PTC, not the West Station.

Due to the West Station's lack of interconnectivity, lack of supportive land uses, and lack of local and regional support, **this alternative and its associated station, Palmdale West, are withdrawn from further consideration**. Please see Table 7-1 at the end of this document which provides an alternatives evaluation summary.

## **3 SANTA CLARITA SUBSECTION**

The April 2012 SAA report recommended two alignment alternatives to be studied in future environmental documentation; Santa Clarita North (SCN) and Santa Clarita South (SCS). This SAA recommends no changes to SCS.

The April 2012 SCN configuration did not meet the requirements of a standing Authority Technical Memorandum (2.1.2), for both curvature and speed.

As to curvature, this relates to overlapping curves, specifically, horizontal spiral curves (transitions between circular curves and tangents) would be coincident with vertical curves in the April 2012 version of SCN. The Authority's 2009 Technical Memorandum (TM) 2.1.2 (Alignment Design Standards for High-

Speed Train Operation) section 6.1.7 states that overlapping vertical curves and spirals will only be permitted where practical alternatives have been exhausted. Since there are practical alternatives (i.e., adjusting the profile of SCN to remove the overlapping curves), it was determined that the April 2012 SCN alignment did not meet this criterion and therefore is not considered acceptable.

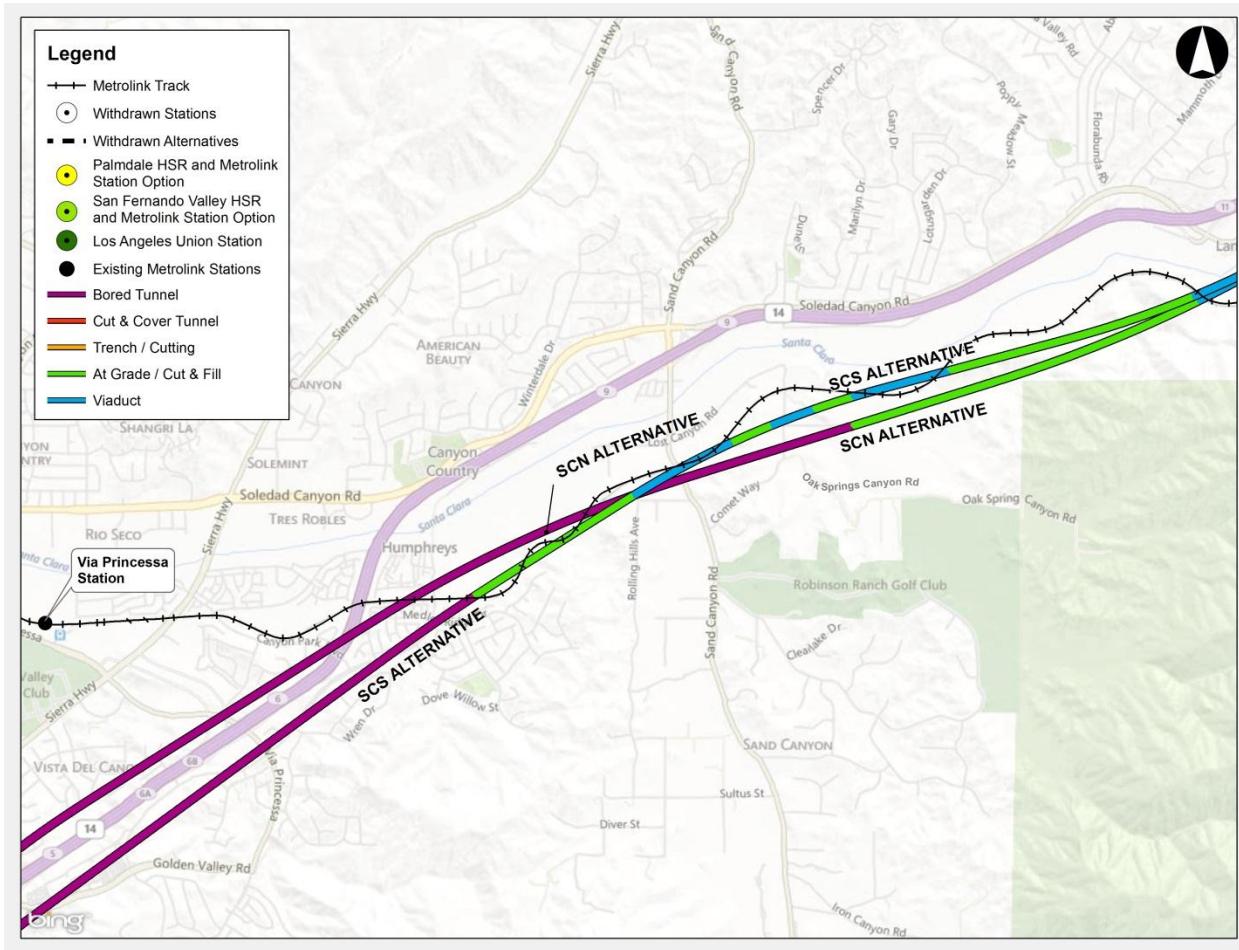
As to speed, this relates to the length of individual HST track segments of differing alignment elements type – e.g., tangent, horizontal curves, vertical curves, etc. Per TM 2.1.2 section 3.1 “The alignment of the railroad shall be as smooth as practical with minimal changes in both the horizontal and vertical direction. Appearance, ease of maintenance, and ride quality are all enhanced by a smooth alignment with infrequent and gentle changes in direction.” The April 2012 SCN profile had alignment segment lengths that were lower than the minimum set out in Technical Memorandum 2.1.2 section 6.1.1, which would reduce the track speed from 220mph to 170mph. Deviation from the minimum alignment segment length, and the reduction in track speed, did not meet Authority criteria in this area and this has been addressed through design refinements which have resulted in a longer SCN tunnel.

The profile has therefore been updated to eliminate the non-standard alignment features and now meets geometric standards in TM 2.1.2 for curvature and segment lengths. There are now no spirals coincident with vertical curves, and the speed restriction due to segment lengths has been removed. The result of this new profile would extend the tunnel of SCN to the north by approximately 1.9 miles, and, in turn, increase the length of the Santa Susana tunnel, which is already the longest tunnel in this section, from 7 to 8.9 miles.

Because the technical issues required SCN to have an extended tunnel, the SCN Alternative now happens to have reduced residential, biological, noise, vibration, and visual impacts but has a higher cost. No changes have been made to SCS. Table A-2 in Appendix A contains adjusted evaluation comparisons.

Thus, **both alignment alternatives are carried forward for further consideration**. Please see Table 7-1 at the end of this document which provides an alternatives evaluation summary. Figure 3-1 shows the alignment alternatives through the Santa Clarita area.

**Figure 3-1 Santa Clarita Subsection Alignment Alternatives**



## 4 SAN FERNANDO VALLEY SUBSECTION

This subsection, covering the San Fernando Valley area between Sylmar and SR 2 and previously referred to as the Sylmar to SR 134 Subsection, has been renamed the San Fernando Valley Subsection. It would traverse the San Fernando Valley along the existing Metro ROW and include three station options: San Fernando, Branford Street, and Burbank Airport (previously Buena Vista). Union Pacific Railroad (UPRR) has access to this ROW to serve customers, including the Vulcan Materials Sun Valley location, on the east side of the Metrolink tracks. Additionally, Amtrak operates trains in the ROW south of Burbank Junction. In the July 2010 PAA report, the HSR corridor is aligned on the east side of the Metrolink tracks within the Metro ROW.

### ***Alignment Alternatives (HSR to the East or West of Metrolink)***

The HSR configuration on the east side of Metrolink was based on the anticipated program schedule at the time, i.e. that any improvements to Metrolink infrastructure would be constructed at the same time as the high-speed rail infrastructure. However, the Revised 2012 Business Plan introduced the concepts of phased implementation and the blended approach, with the 2014 Business Plan reaffirming these concepts. These concepts mean that the existing rail infrastructure in the Los Angeles region would be used to support an IOS with a temporary terminus in the San Fernando Valley. The resulting objective is

to improve infrastructure in the near future so that existing trains can be faster and safer and allow the system to be ready to connect to the high-speed rail service.

A program of early investments to improve the existing Metrolink rail infrastructure would benefit the phased implementation and blended approach. The Authority and Metro are working together to develop the details of this program. By carrying forward both HSR configurations, flexibility is provided to allow early investment projects to be planned and implemented sooner. The local rail system would have a greater opportunity to be made safer, faster, and ready to connect to HSR service prior to HSR construction. Therefore, **both HSR configurations**, on either the west or east side of the Metro ROW, **are carried forward for further consideration**. Please see Table 7-1 at the end of this document which provides an alternatives evaluation summary. A more detailed description and evaluation comparison of these two alternatives will be studied in a future environmental document.

### ***Station Options***

In light of the 2014 Business Plan's strategy of creating an IOS with a temporary terminus within the San Fernando Valley and blending systems and operations with existing infrastructure, the three station options are examined below.

#### **4.1 Description of Station Options**

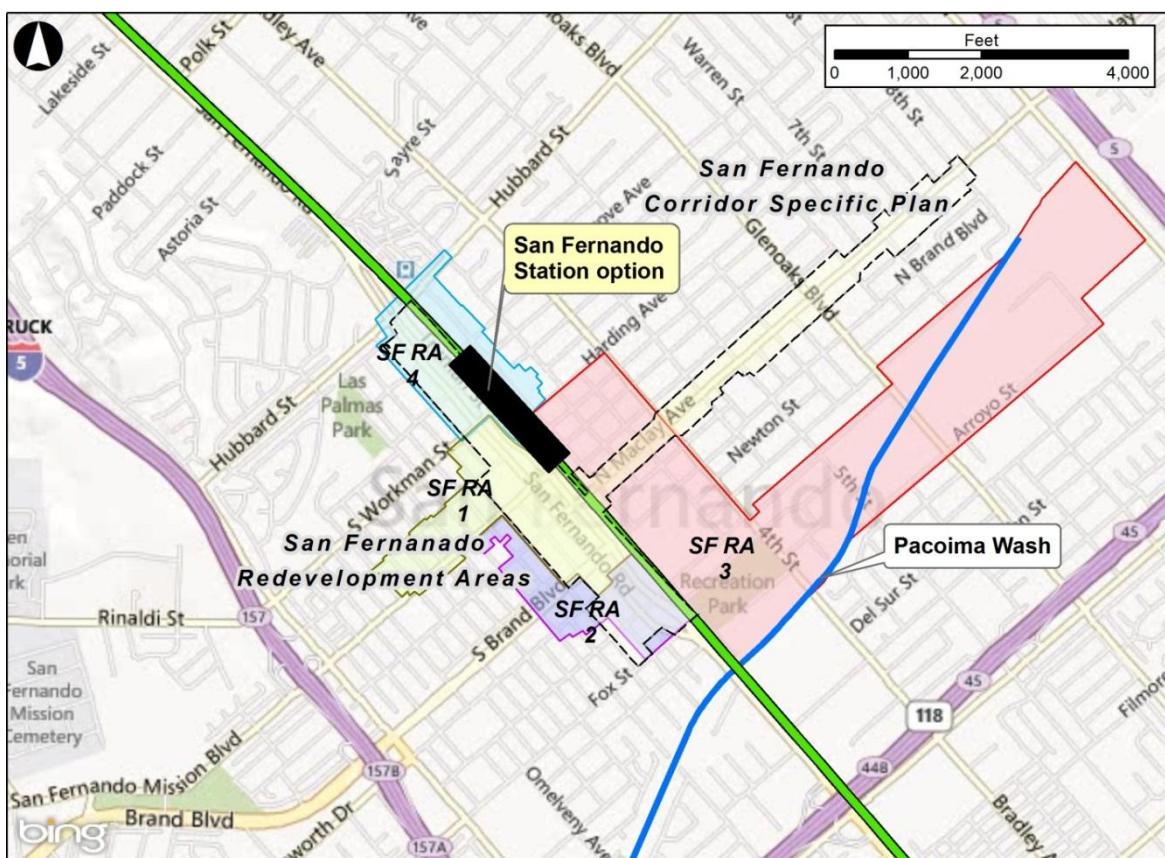
The three station options considered in the PAA and carried through the first and second SAA reports are: San Fernando, Branford Street, and Burbank Airport. In these earlier planning documents the three station locations were introduced and evaluated as mid-line station locations, with LAUS being the terminus station. Stations that best meet the HSR goals for land use and interconnectivity also perform better with an IOS in San Fernando Valley. An interim terminus station in the San Fernando Valley would receive higher ridership than a mid-line station in the San Fernando Valley, therefore, it would require access to more parking, supporting facilities, and intermodal connections, further emphasizing the goal of intermodal connectivity. The 2014 Business Plan's focus on integrated passenger rail operations also strengthened the need for platforms and facilities to co-locate new, or relocate existing, Metrolink Antelope Valley line station locations. These station options would not impact the overall grade separation concepts proposed in their immediate vicinities.

##### ***San Fernando Station***

The proposed San Fernando Station option would be located in downtown San Fernando along the Metro ROW and Truman Street north of San Fernando Mission Boulevard (Figure 4-1). This location, while located relatively close to the I-5, SR 118, and I-210 freeways, would be in a congested traffic area of the City of San Fernando and would be difficult to access from the freeways during rush hour.

The surrounding area features a mix of land uses. The areas within and adjacent to the station footprint include industrial, commercial, and residential land uses. Industrial and commercial uses surround the existing Metro ROW to the east and west for one to two blocks. Single-family homes are adjacent to these uses and are located two to three blocks out from the ROW and continue west toward I-5 and east toward the I-210. Within a quarter-mile radius of the proposed station there are a number of public facilities, including the City of San Fernando City Hall, three parks, and many local businesses and single-family residences. The existing Sylmar/San Fernando Metrolink station is located one mile to the north.

**Figure 4-1 San Fernando Station Location**

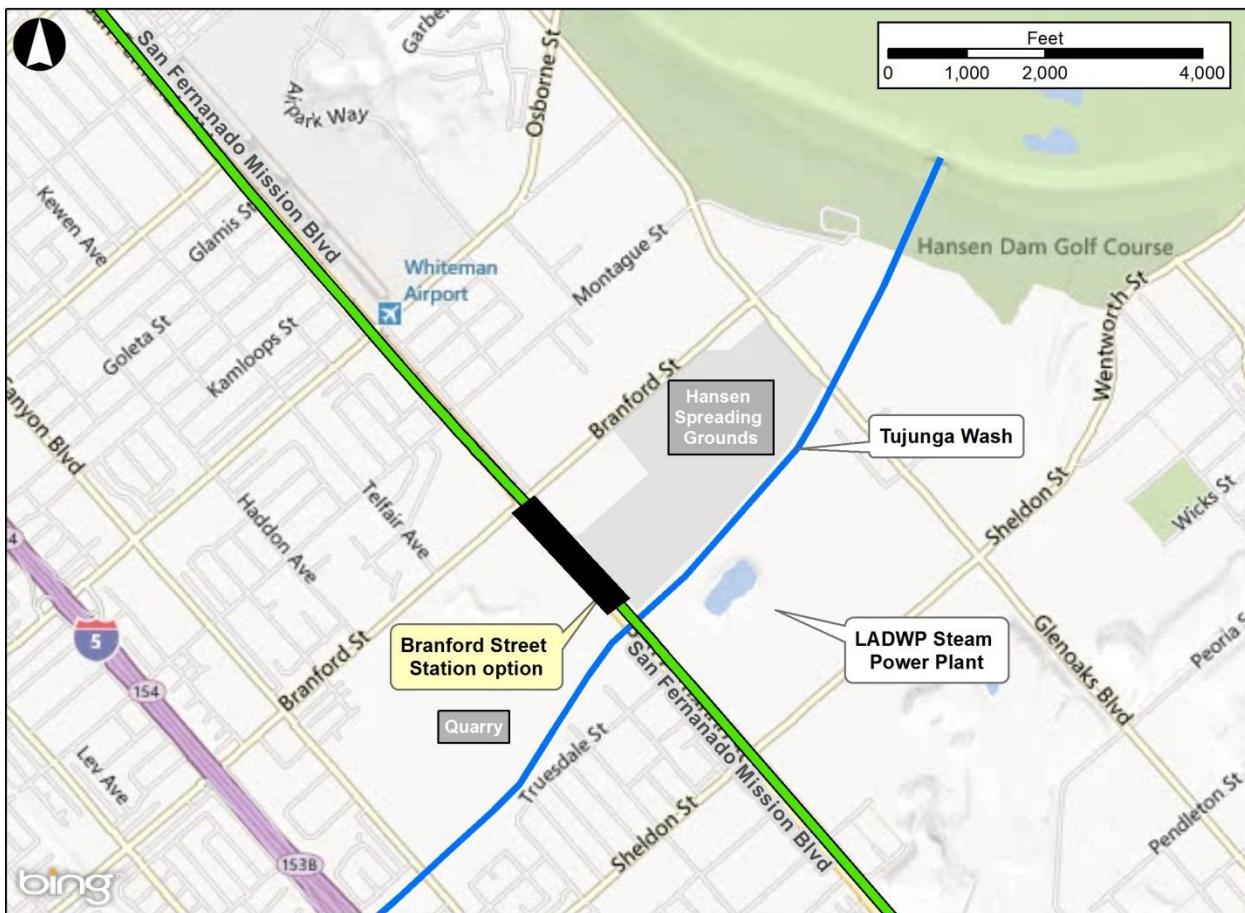


*Branford Street Station*

The proposed Branford Street Station option would be located along the Metro ROW at the intersection of San Fernando Road and Branford Street (Figure 4-2). Major access to the station would be by Osborne Street, connecting to I-5 to the west, San Fernando Road, connecting to SR 118 to the north, and Glenoaks Boulevard, a major arterial road to the east. These existing road connections to the freeways are through primarily industrial areas and could be upgraded to accommodate increased traffic to the HSR station.

The surrounding area features broadly mixed use. The area south of Branford Street is dominated by quarries and the Los Angeles County Hansen Spreading Grounds (used for ground water recharge and to reduce peak flood flows in Tujunga Wash). A portion of the disused quarry within the station footprint can be filled in (the HSR project will generate significant volumes of soil suitable for filling) and this can create an opportunity for development. Both sides of the Metro ROW between Branford and Montague Streets are primarily automotive salvage yards. Between Montague and Osborne Streets both sides of the rail corridor are fronted by commercial use with residential areas immediately behind. The same is true north of Osborne Street, on the west side of the right-of-way. The east side north of Osborne Street is occupied by Whiteman Airport. This station option is 4 miles from the San Fernando Metrolink station and 2.5 miles from the Sun Valley Metrolink station. The station platforms would be on low embankment.

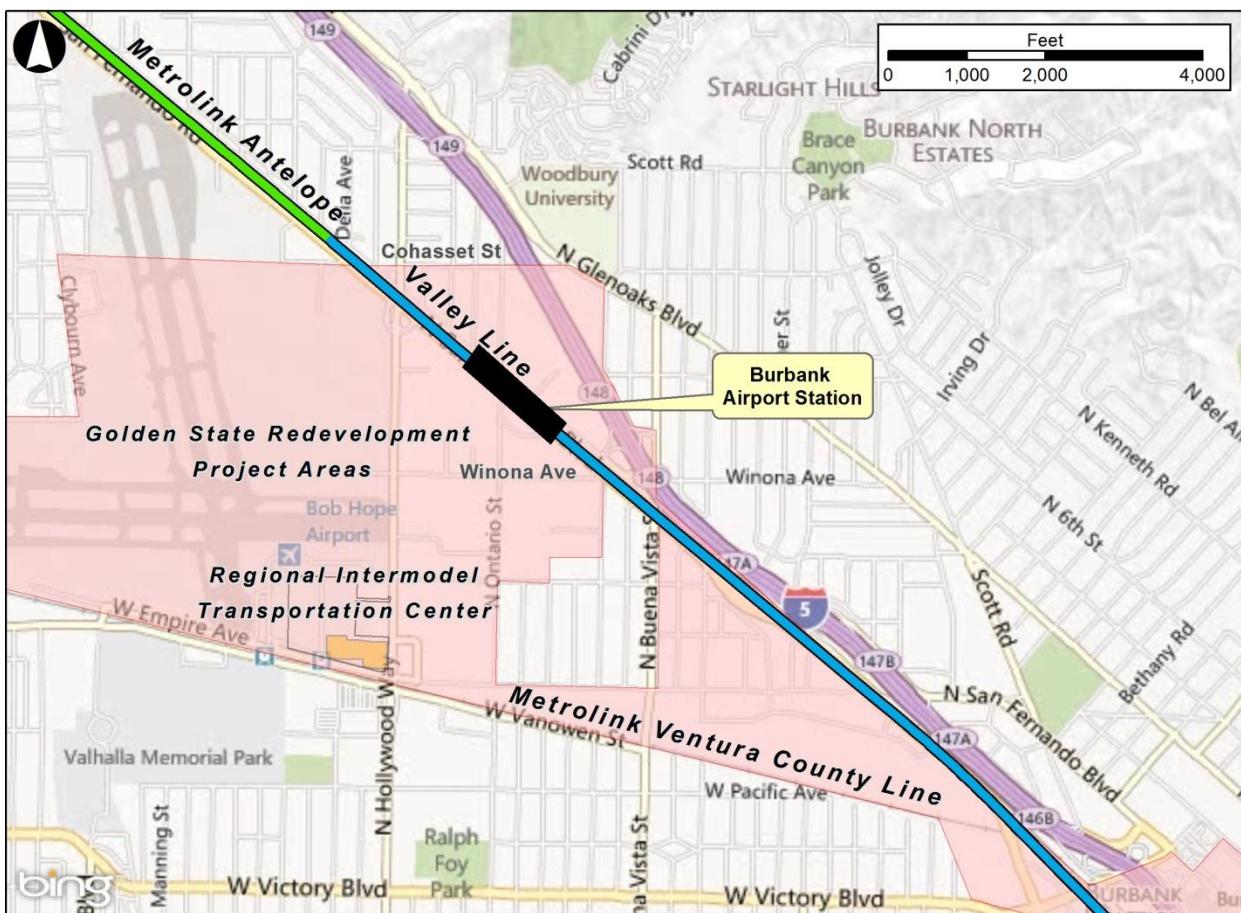
**Figure 4-2 Branford Street Station Location**



#### **Burbank Airport Station (formerly Buena Vista)**

The proposed Burbank Airport Station option would be located less than a mile from the Bob Hope Airport in a piece of land bordered by Hollywood Way, Cohasset Street, I-5, and Winona Avenue (Figure 4-3). Major access to the station would be by way of North Hollywood Way and Buena Vista Street, both of which connect to Interstate 5 (I-5). Additionally, San Fernando Road is another key corridor that would provide access to the station. There are several local transit providers within a one-mile radius of the station including Metro (local bus), Metrolink (regional train on the Ventura County line), City of Burbank (local bus), and the City of Santa Clarita (commuter express bus line). A new Metrolink station on the Antelope Valley line near the Bob Hope Airport is planned to open in early 2015. Additionally, a new Regional Intermodal Transportation Center to facilitate airport connectivity with parking and rental car facilities is scheduled to open by the end of 2014. Metro is also studying the possibility for an extension of the Orange Line Bus Rapid Transit system to the Bob Hope Airport. These studies have been conducted in coordination with linkBurbank, a joint planning effort between the City of Burbank and the Burbank-Glendale-Pasadena Airport Authority to analyze potential transportation and related land use development in the airport area.

**Figure 4-3      Burbank Airport Station Location**



## 4.2 Evaluation of Station Options

The three proposed locations are being examined in consideration of the phased implementation strategy to meet the HSR project's longstanding goals of reduced travel time and transportation interconnectivity. Evolving regional transportation infrastructure planning efforts are being taken into consideration within the context of the phased implementation strategy. As stated in the Business Plan, the state-wide HSR system is expected to have three distinct stages of operation to complete the first phase (Phase 1) of the program. First, an IOS will be constructed and placed in operation between Merced and a station located in the San Fernando Valley. Second, the IOS will be expanded north on dedicated HSR infrastructure to San Jose. This phase is called Bay-to-Basin (BtoB). Third, the system will be expanded north to San Francisco and south to LAUS to complete the first phase of infrastructure construction for the HSR program (Phase 1). Under the Full Build scenario, dedicated HSR infrastructure would be extended from San Jose to San Francisco's Transbay Transit Center and from Los Angeles to Anaheim.

As a result of the 2014 Business Plan strategy, a station location needs to be identified in the San Fernando Valley that would be functional for not only the Phase 1 operations but also for the intermediate IOS and BtoB stages of operation. The selected station site would operate as a temporary terminus with the IOS in 2022 until HSR operations reach LAUS in 2029. Key factors to meet this strategy include:

- Minimizing impacts associated with growth by selecting multi-modal transportation hubs as potential station locations.
- Maximizing access and connectivity, which will facilitate TOD opportunities.
- Increased emphasis on inter-modal connections with local and regional transit, airports, and highways to support ridership and improve the experience for intercity travelers.
- Planning for pedestrian connectivity with Antelope Valley Metrolink service at each San Fernando Valley station option.
- The potential for the chosen station to be part of a regional transportation hub.
- The potential for the chosen station to accommodate a short-term increase in passenger volumes, parking, and associated facilities.

The Burbank Airport Station location is the only station that is recommended to be carried forward given the station location's: connectivity to the airport and the ability to leverage parking and rental car facilities provided at the airport, proximity to stations on both the Antelope Valley and Ventura County Metrolink lines, and the potential to leverage TOD opportunities. Additionally, the Bob Hope Airport's planned Regional Intermodal Transportation Center (RITC) will allow for adjacent connections to future transit modes. This station's multimodal interconnectivity also makes the location suitable to function as a terminus for the IOS. The alternative station locations at Branford and San Fernando are 4.5 to 8 miles, respectively, from the Bob Hope Airport, and would not leverage airport facilities and would not provide connectivity to the Ventura County Metrolink line.

### ***San Fernando Station***

The San Fernando Station option: lacks intermodal connectivity, would have adverse land use impacts to the surrounding community, lacks consistency with the General Plan, and would have constrained capacity to support TOD opportunities. The site would be incompatible with the requirements of the temporary terminus station for the IOS due to lack of intermodal connectivity and ability to provide additional interim parking.

This station location suffers a lack of intermodal capacity for the following reasons:

- No direct connection to the Bob Hope Airport (approximately 8 miles away from the Airport), or associated parking and rental car facilities at Bob Hope Airport.
- No access to Metrolink Ventura County line.
- Less connectivity to existing regional freeways.
  - Over one mile from SR 118 along San Fernando Road, within one mile of I-5 along San Fernando Mission Boulevard.
- Metro has a planned East San Fernando Valley Transit Corridor that could provide additional connectivity to the station area and indirectly connect it to the Metrolink Ventura County line and the Metro Orange Line. However, it does not provide a direct connection to an airport, as does the Burbank Airport station location.

The proposed station would lie within the City of San Fernando Corridors Specific Plan and Redevelopment Project Areas #1, #2, and #3. While the existing and planned land uses within a quarter mile are commercial, public, and residential, the area immediately adjacent to the station area is primarily existing single-family residential. Because of this use, it would be challenging to find sufficient parcels to create TOD areas without needing to further displace single-family homes.

The San Fernando Station option would also suffer from a constrained site. There is a section of existing sub-100 foot railroad ROW width in this area. On average, the HSR would require approximately a 120 foot ROW width, thus this area would likely require expansion of the ROW leading to displacement of existing commercial uses. The existing ROW and the HSR station footprint would be directly adjacent to a narrow commercial district. This district expands only two to three blocks, at its widest, from the existing

ROW, and has shallow blocks (200 x 500 feet). As mentioned above, single-family homes are then located immediately adjacent to this commercial area. The resulting commercial displacement from the expanded ROW and station footprint would further reduce the existing commercial buffer between the Station and TOD uses and single-family homes.

The introduction of the San Fernando Station would lead to impacts on the Central Business District and the small-town character of the City of San Fernando. It would also disrupt the street grid and impact bike and pedestrian facilities. Compared to other station options in the San Fernando Valley (SFV), this location would result in the most residential displacements. There would be 18 residential displacements from this station's footprint (as opposed to zero residential displacements from the other two station sites). Additionally, this station option would have the most residential parcels in its proximity (704, versus 8 for the Branford Street Station and 126 for the Burbank Airport Station within 2000 ft.). As the City of San Fernando is a small city with a land area of 2.37 square miles and only approximately 24,000 residents, the amount of displacement due the location of the temporary terminus station and related facilities such as parking, would have adverse impact on the land uses. As TOD land uses would eventually expand to approximately ¼-mile to ½-mile around the station, more than half of the existing single-family residences within the City would be impacted, permanently changing the community character of this small city.

The lack of intermodal connectivity and the constrained site characteristics prevent this site from functioning effectively as an SFV IOS and BtoB Station. Any access to additional facilities that would be needed as a result of being an SFV IOS Station would be confined, and would cause greater impacts and/or displacement due to the constrained nature of the site.

When compared to other San Fernando Valley station options, environmental concerns would include: the highest number (3) of cultural resources within the station footprint, the most acres of parklands within 100 and 1,000 feet, the greatest number of sensitive noise and vibration receptors within 2,000 feet of the station footprint, and the northern end of the station footprint is located within a liquefaction hazard zone and the Alquist-Priolo earthquake fault zone for the San Fernando Fault. Additionally, the San Fernando Station has the potential to have substantial direct and indirect impacts to community resources that are important to communities of environmental justice concern, such as parks, churches, schools, and historic properties. Table A-3 in Appendix A contains additional evaluation comparisons.

Furthermore, the site is inconsistent with some of the objectives of the City of San Fernando General Plan that seek to retain the small town character and conserve single-family neighborhoods. Locating an HSR station in this area would require the redevelopment of a large portion of this downtown community, especially to accommodate the large parking structures needed.

Since a HSR station at this site would present a lack of intermodal connectivity, would have TOD challenges, would result in greater potential community impacts due to a constrained site, would have environmental concerns, and would not be a suitable SFV IOS Station, **this station option is withdrawn from further consideration**. Please see Table 7-1 at the end of this document which provides an alternatives evaluation summary.

#### **Branford Street Station**

This station site is located on properties with existing light industrial uses. The surrounding area also has light industrial uses that could possibly present redevelopment opportunities for the City of Los Angeles. However, the vast majority of these light-industrial uses, combined with the absence of any station-supportive development (such as commercial corridors, mixed-use development, mass transit, etc.), or plans for such development, suggests that this site is ultimately not a desirable location for the station. Moreover, the Branford Street Station location suffers from a similar lack of intermodal connectivity as the San Fernando Station, highlighted by:

- No direct connection to the Bob Hope Airport (approximately 4.5 miles away from the Airport), or to the associated parking and rental car facilities at the Airport.
- No access to Metrolink Ventura County line.
- Less supportive existing or planned land uses.
- Less connectivity to existing regional freeways.
  - One and a half miles to the I-5 via San Fernando Boulevard to Sheldon Street, and one and a half miles to the I-5 via San Fernando Boulevard to Osborne Street.

The lack of intermodal connectivity prevents this site from functioning effectively as an SFV IOS or BtoB Station. The Burbank Airport Station provides the opportunity for a shared parking program with the Airport, which should mitigate the need for an oversupply of parking that might otherwise be required for an SFV IOS Station. The same opportunity is not provided at the Branford Street Station location.

TOD potential would be constrained at the Branford location due to the presence of the adjacent percolation ponds and the Los Angeles Department of Water and Power (LADWP) steam power plant located less than a half-mile from the station location. These existing uses are not consistent with TOD characteristics of mixed-use, high-intensity development that encourages transit ridership. Permitting may also be more difficult due to the percolation ponds.

There is also potential to impact special aquatic resource areas that may exist in the percolation ponds, and a majority of the station footprint would be located within a half-mile radius of a City of Los Angeles Methane Hazard Zone. Table A-3 in Appendix A contains additional evaluation comparisons.

Due to the lack of intermodal connectivity, constrained TOD potential, and potential environmental impacts, **this station option is withdrawn from further consideration**. Please see Table 7-1 at the end of this document which provides an alternatives evaluation summary.

#### ***Burbank Airport Station***

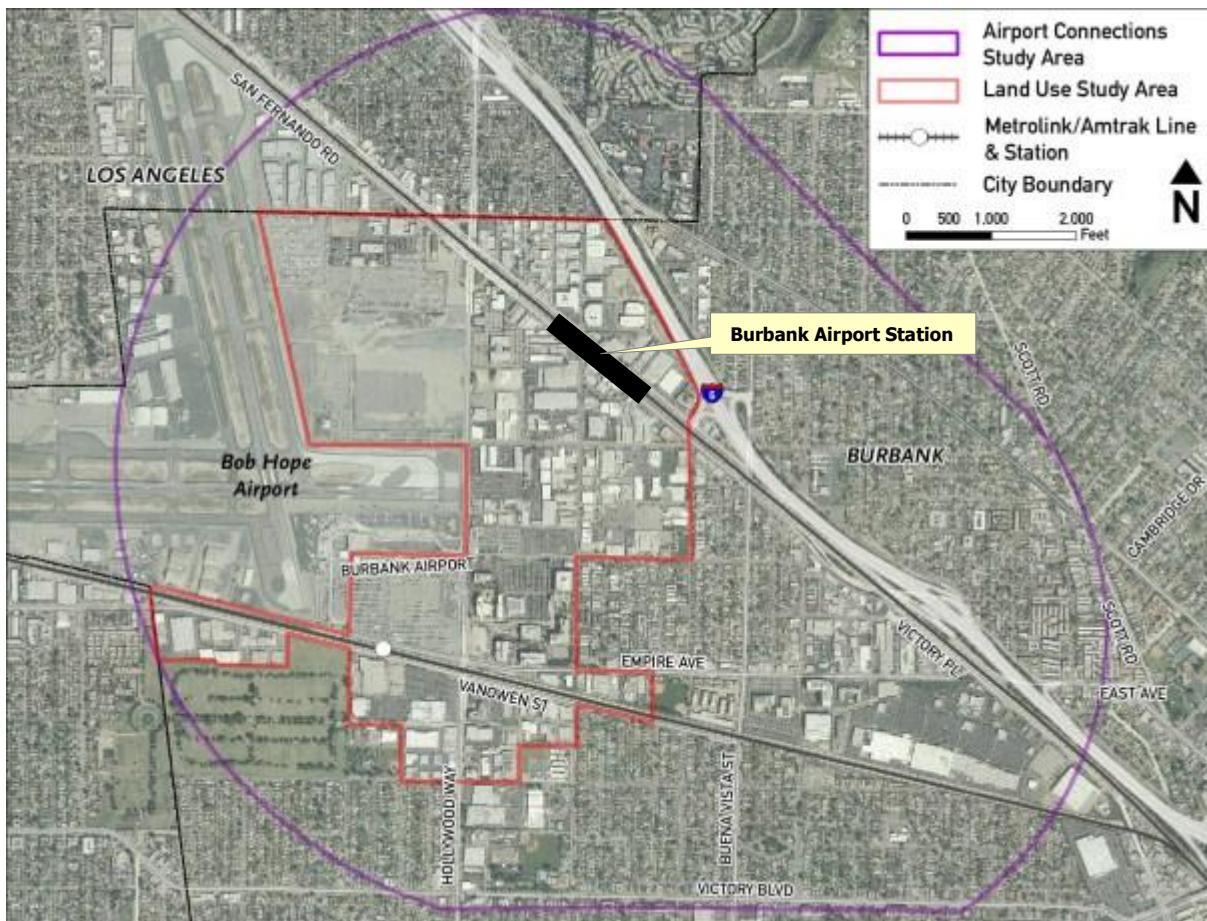
The Burbank Airport Station would provide the best intermodal connectivity of all three station options due to its proximity to the Bob Hope Airport, connection to Metrolink, and its planned RITC. There are over 100 acres of potential development opportunity identified and under examination for potential TOD opportunities. Additionally, this station's connectivity to the complete intermodal network of roads, transit, and airport make it suitable as an IOS terminus.

The Burbank-Glendale-Pasadena Airport Authority has planned a 520,000-square-foot RITC at the Bob Hope Airport. The RITC would allow air, rail, bus, taxi, and rental car travelers to converge seamlessly at one central point, reducing private vehicle travel by facilitating greater use of public transportation by airport patrons. The RITC would include a three-level parking structure for rental cars, a rental car customer service building and a bus station. The bus station would serve local and regional bus lines and accommodate shuttles to the Metro subway station in North Hollywood which serves the Red and Orange Lines, the new Metrolink station to be built on the Antelope Valley line at San Fernando Boulevard and Hollywood Way, the Metrolink station on the Ventura County line at the airport, and the Metrolink station in downtown Burbank which serves both the Antelope Valley and Ventura County lines. An elevated, covered 1,100-foot moving walkway would carry rental car customers and bus passengers to and from the airport terminal. The proximity of Bob Hope Airport, RITC, and related services to this station location would benefit both the HSR project as well as the Airport. The RITC offers key HSR benefits at the Burbank Airport Station location not available at San Fernando or Branford: circulator connection with the airport itself, access to parking and rental car facilities, and circulator connection with the Ventura County Metrolink line. Additional intermodal connectivity opportunities include the I-5 (access within ½-mile).

There are significant undeveloped land parcels adjacent to the station area. The City of Burbank and the Burbank-Glendale-Pasadena Airport Authority, owner and operator of Bob Hope Airport, have established the Bob Hope Airport Area Ground Transportation and Land Use Study to analyze potential transportation and related land use development in the Airport area (known as linkBurbank) (Figure 4-4). The goals of

the study are to develop ground transportation improvements that will allow the Airport to serve as a multi-modal regional transportation hub, and to identify TOD opportunities in the Airport area to take advantage of its transportation connections. The Burbank Airport HSR Station would be within this study area.

**Figure 4-4 linkBurbank Study Area**



The study area considers a mix of industrial, light industrial and office to create a mix of vibrant places walkable to transit. To avoid land use conflicts between residential uses and the nearby airport, the residential components could be located east of North Ontario Street and at the periphery of the TOD zone. Existing single- and multi-family homes are located east of North Ontario Street starting ¼-mile south of the station planning area. Other TOD uses such as hotels, offices, and commercial uses could be located closer to the airport.

Furthermore, the area is an attractive location for third-party and Public Private Partnership investments given there would be a critical mass as a result of the strong potential for this area to become a regional transportation hub.

As mentioned above, the selected station site for the IOS would operate as a temporary terminus with the IOS in 2022 until HSR operations are extended to LAUS in 2029. This would require investment in temporary parking facilities, and related services. Co-locating the HSR station near Bob Hope Airport would provide the opportunity for investments in station area improvements and temporary parking, which could be beneficial to the airport as well. The parking demand at the SFV IOS Station is likely to be higher than that needed for Phase 1 buildout. However, due to the adjacent intermodal connectivity at

this location, the Burbank Airport Station would provide the opportunity for a shared parking program with the Airport, thus potentially reducing the number of new parking spaces by the greatest extent when compared to the other SFV IOS Stations.

Environmental considerations include 22.5 acres of combined commercial and industrial displacements, the highest of the three San Fernando Valley station alternatives (Branford would displace 18.2 acres; San Fernando would displace 21.1 acres). This station alternative would have the potential to impact 126 residences within 2,000 feet of the station. This is higher than Branford (8) and lower than San Fernando (704). There are no known biologically sensitive habitats that would be affected by this station location. Table A-3 in Appendix A contains additional evaluation comparisons.

Due to the intermodal connectivity, strong TOD potential, supportive land uses, and operational advantages as an SFV IOS Station, **this station option is carried forward for further consideration**. Please see Table 7-1 at the end of this document which provides an alternatives evaluation summary.

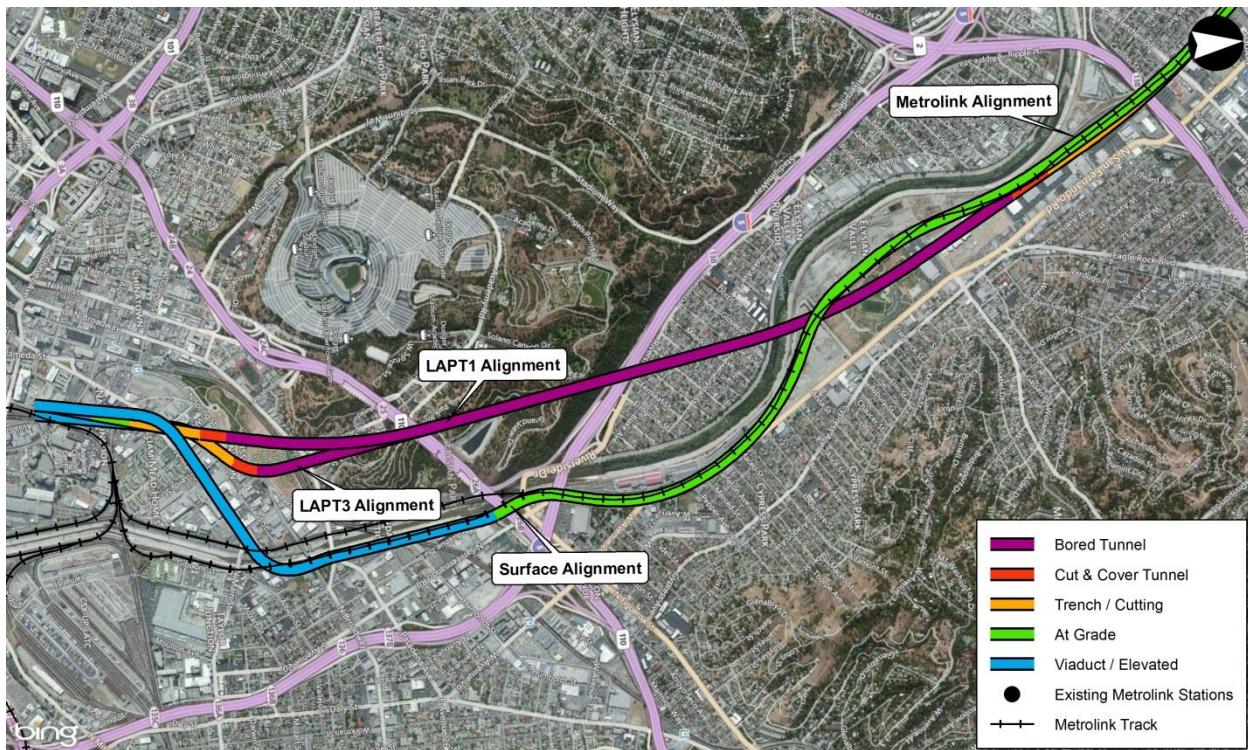
## 5 LOS ANGELES SUBSECTION

The March 2011 SAA Report recommended three alignment alternatives that covered the Metrolink CMF to LAUS and SR 2 to Metrolink CMF subsections. These three alternatives included one surface alignment alternative, named LAP1C, and two tunnel alternatives, named LAPT1 and LAPT3. Subsequent to that SAA, the engineering designs for this section led to consolidation of the two subsections into one, now named the Los Angeles subsection. Additionally, the LAP1C alternative was renamed to the "Surface" alternative.

The Surface alternative and LAPT3 remain unchanged. However, LAPT1 has been refined to utilize a higher platform at LAUS (though the original at-grade elevation is still achievable), and as such, the profile has changed slightly. Beneath Elysian Park in bored tunnel, the alignment has been shifted slightly to the east and is aligned with the LAPT3 alignment. It diverges to the west from LAPT3 near its intersection with Casanova Street. The tunnel would pass under homes along Solano Avenue but at a depth where vibration issues would not be a concern (over 100 feet deep). Like the past design, the bored tunnel would pass under the Los Angeles Historic State Park (LAHSP) and transition through a cut and cover tunnel beneath Spring Street to emerge above grade to the south. This refinement provides flexibility to match the preferred high-speed rail platform location that will be proposed by the LAUS Master Plan currently being developed by Metro.

Therefore, **all three alignments are being carried forward**. Please see Table 7-1 at the end of this document which provides an alternatives evaluation summary. No additional description or evaluation comparison is necessary at this time. A map showing the Los Angeles Subsection alternatives can be seen in Figure 5-1.

**Figure 5-1 Los Angeles Subsection Alignment Alternatives**



## 6 SEPARATE SECTIONS (PALMDALE TO BURBANK, BURBANK TO LOS ANGELES) WITH SEPARATE ENVIRONMENTAL DOCUMENTATION

As discussed above, in response to several factors outlined in the 2014 Business Plan and the creation of the IOS, the Palmdale to Los Angeles Corridor will be split into two sections, each having environmental documentation. The 2014 Business Plan states that the IOS will close the rail gap between Bakersfield and Palmdale and connect the Central Valley to the Los Angeles Basin at San Fernando Valley, creating the first fully operational high-speed rail segment. Given the independent utility of each of the sections, the Palmdale to Los Angeles Corridor will be divided into two independent sections with the chosen SFV IOS Station being the point at which the sections are split.

This split is consistent with the HSR environmental process requirements of logical termini and independent utility for each project section. An SFV IOS Station in the San Fernando Valley at Burbank can operate as a temporary terminus with the IOS as well as a mainline station for Phase 1 build out. This allows for phased implementation of the HSR system consistent with the 2014 Business Plan.

NEPA case law has led to established practices and regulations<sup>4</sup> that stress independent utility or distinct purpose and need of an action being considered in the environmental clearance process. As the HSR system will be implemented in sections, each HSR section must serve the purpose and need for the HSR system and have utility if no later sections of the HSR system are completed. Towards this end, and in

<sup>4</sup> Regulations of the Federal Highway Administration found at 23 CFR 771.111(f) have addressed independent utility and logical termini and the concepts embodied in the regulations have been adapted for use in the development of the HSR system.

order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, the action of implementing each HSR project section adheres to the following three principles:

1. *Connect logical termini and be of sufficient length to address environmental matters on a broad scope. Project environmental review will address direct and indirect impacts and will cover a broader geographic area than the footprints of facilities and work areas necessary to construct the HSR system;*
2. *Have independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if later sections of the HSR system are not completed; and*
3. *Be consistent with decisions made through the Program environmental documentation and not restrict consideration of project alternatives or foreclose potentially desirable options in other sections of the HSR system.*

For a Palmdale to Burbank section and a Burbank to LAUS section, the above conditions are met as follows:

1. The Palmdale to Burbank Section environmental documentation will have the same northern boundary in Palmdale as the section does now, and the southern boundary will encompass the station location and any operational impacts of Burbank Airport Station in the San Fernando Valley. This southern boundary would include any ancillary facilities needed for operating the interim terminus, independently, such as storage tracks, turn back tracks, traction power facilities, etc. The Burbank to Los Angeles section will be the logical next phase to connect the corridor to LAUS, and both station locations provide logical termini.
2. With the concept of the IOS in the 2014 Business Plan, a section limit from Palmdale to Burbank allows for independent utility, as a station at Burbank will operate as the temporary terminus station with the IOS in 2022 until HSR operations are extended to LAUS in 2029. The San Fernando Valley is one of the most densely populated regions of the Los Angeles Basin, and will serve as a local and regional transit hub. This section will be usable as an IOS and be a reasonable expenditure even if no additional transportation improvements in the area are made.
3. Splitting the current corridor at the Burbank Airport Station will not restrict consideration of alternatives for the remainder of the Palmdale to Los Angeles Corridor, as well as not restrict reasonably foreseeable transportation projects. These reasonably foreseeable transportation projects, or early investment projects, will be able to take place within the Palmdale to Burbank section and the Burbank to Los Angeles section. The analysis will proceed in the same manner where other sections of the HSR project meet and overlap.

The scoping process for the two sections will occur at a future date. It will serve to formally notify agencies, stakeholders, and the public of the new section definitions, and will provide them the opportunity to comment on the range and breadth of issues to be addressed in the respective environmental documentation.

## 6.1 Station-to-Station Alternatives

In future environmental documentation, the alternatives for subsections will be combined to form complete station-to-station alternatives. Combining the subsection alternatives will result in a small number of end-over-end alternatives which will be analyzed in the environmental documentation. The end-over-end alternatives will be presented in their entirety, while providing a clearly organized discussion of affected environment, environmental consequences, and mitigation measures by geographic regions (i.e., Palmdale subsection, Santa Clarita subsection, and San Fernando Valley subsection for the Palmdale to Burbank section). This approach will allow a reader to compare impacts by alternatives for a given geographic location, using the same geographic segments to consistently organize location-based

information. The end-over-end alternatives will help present complete impact analyses (station to station), will best describe the different ways that the section can meet overall HSR system purpose and need, and be easily understood by the public. The final range of alternatives will be determined by coordination with USACE and USEPA pursuant to the agencies' Memorandum of Understanding to integrate NEPA and Clean Water Act Section 404/408.

## 7 RECOMMENDATION

Based on the PAA (July 2010), the first SAA (March 2011), the second SAA (April 2012), and this third SAA (October 2013); the alignment alternatives and station options either withdrawn from further consideration or identified for further evaluation in the environmental clearance process are listed below and are summarized in Table 7-1. Alternatives carried forward for further consideration are shown in Figure 7-1.

### **Palmdale Subsection**

- SR 14 East Alignment Alternative and Station Option – carried forward
- SR 14 West Alignment Alternative and Station Option – withdrawn
- SR 14 E/W Hybrid Alignment Alternative and Station Option – carried forward

### **Santa Clarita Subsection**

- Santa Clarita South Alignment Alternative – carried forward
- Santa Clarita North Alignment Alternative – carried forward

### **San Fernando Valley Subsection**

- San Fernando Station Option – withdrawn
- Branford Street Station Option – withdrawn
- Burbank Airport Station – carried forward
- HSR aligned on the west side of Metrolink – carried forward
- HSR aligned on the east side of Metrolink – carried forward

### **Los Angeles Subsection**

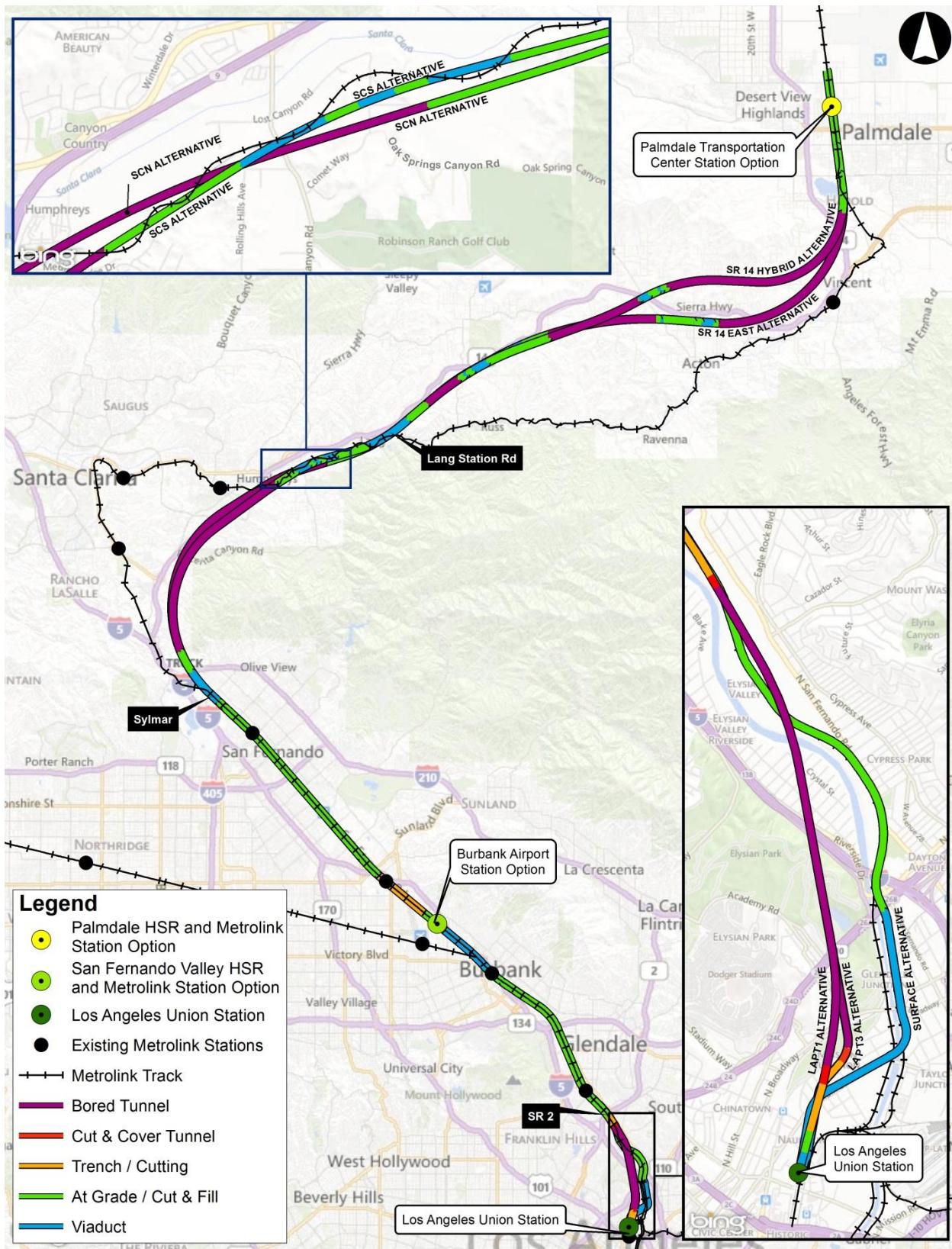
- LAPT1 Alignment Alternative – carried forward
- LAPT3 Alignment Alternative – carried forward
- Surface Alignment Alternative – carried forward

In addition to the above recommendations on Alignment Alternatives and Station Options, the following is also recommended.

### **Separate Environmental Documentation for HSR Sections and Alternatives Presentation**

- Palmdale to Burbank environmental documentation
- Burbank to Los Angeles environmental documentation

**Figure 7-1 Alignment Alternatives and Station Locations Carried Forward**



**Table 7-1 Alternatives Evaluation Summary**

ALIGNMENT ALTERNATIVES AND STATION OPTIONS	AA DECISION		REASONS FOR ELIMINATION <sup>1</sup>							ADDITIONAL OBSERVATIONS/COMMENTS
	Carried Forward	Withdrawn	Goals & Objectives <sup>2</sup>	Construction <sup>3</sup>	Incompatibility <sup>4</sup>	Right-of-Way <sup>5</sup>	Connectivity/ Accessibility <sup>6</sup>	Community Impact <sup>7</sup>	Environment <sup>8</sup>	
<b>Palmdale Subsection – Alignments and Station Options</b>										
SR 14 East and Palmdale Transportation Center Station	X		13 of 13							Close to schools in Acton; longer and more expensive route; Station at the Palmdale Transportation Center would provide connectivity to Metrolink and High Desert Corridor project.
SR 14 E/W Hybrid and Palmdale Transportation Center Station	X		13 of 13							Combines reduced impacts in Acton with station at the Palmdale Transportation Center; somewhat longer tunnel; 20 second journey time penalty from slower speed curves. Station at the Palmdale Transportation Center would provide connectivity to Metrolink and High Desert Corridor project.
SR 14 West and Palmdale West Station		X	8 of 13	P	S	P	S			Station is not at the Palmdale Transportation Center. Lack of intermodal connectivity.
<b>Santa Clarita Subsection – Alignments</b>										
Santa Clarita North	X		12 of 12							Reduces residential, noise, and visual impacts compared to previous design due to a longer tunnel. Resultant cost increase.
Santa Clarita South	X		12 of 12							Residential impacts; close to school and church.

ALIGNMENT ALTERNATIVES AND STATION OPTIONS	AA DECISION		REASONS FOR ELIMINATION <sup>1</sup>							ADDITIONAL OBSERVATIONS/COMMENTS
	Carried Forward	Withdrawn	Goals & Objectives <sup>2</sup>	Construction <sup>3</sup>	Incompatibility <sup>4</sup>	Right-of-Way <sup>5</sup>	Connectivity/ Accessibility <sup>6</sup>	Community Impact <sup>7</sup>	Environment <sup>8</sup>	
<b>San Fernando Valley Subsection – Alignments</b>										
HSR to East of Metrolink Tracks	X		13 of 13							Likely greater impacts to the historic Glendale Metrolink Station. Would create challenges in serving the two existing rail freight customers on the east side of the right-of-way (Phillips Plywood located at 13599 Desmond Street, Los Angeles, CA; and Vulcan Materials located at 11401 Tuxford Street, Los Angeles, CA).
HSR to West of Metrolink Tracks	X		13 of 13							Would require a viaduct approximately three miles long and elevated 60 feet above ground to cross over Metrolink tracks at the Burbank Junction with rail viaduct over Burbank Boulevard, a new road-over bridge at Magnolia Boulevard, and HSR under existing bridge at Olive Avenue and the I-5.
<b>San Fernando Valley Subsection – Station Options</b>										
San Fernando Station		X	11 of 13	S	P	S	P	P	S	Less potential as a regional transportation hub. Not consistent with General Plan. Would require major upgrades to local street network to accommodate traffic between station and freeways. The construction would cause a major disruption to the downtown area. Would have the highest number of cultural resources (3) and potential Section 4(f) resources within the station footprint.
Branford Street Station		X	11 of 13	S		P		S		Lack of intermodal connectivity. Constrained TOD. Less potential as a regional transportation hub. Within the fault-rupture hazard zone for the Verdugo Fault.
Burbank Airport Station	X		13 of 13							Close to Bob Hope Airport with good road and rail access and potential for a regional transportation hub. Location targeted for redevelopment by City of Burbank.

ALIGNMENT ALTERNATIVES AND STATION OPTIONS	AA DECISION		REASONS FOR ELIMINATION <sup>1</sup>							ADDITIONAL OBSERVATIONS/COMMENTS
	Carried Forward	Withdrawn	Goals & Objectives <sup>2</sup>	Construction <sup>3</sup>	Incompatibility <sup>4</sup>	Right-of-Way <sup>5</sup>	Connectivity/ Accessibility <sup>6</sup>	Community Impact <sup>7</sup>	Environment <sup>8</sup>	
<b>Los Angeles Subsection – Alignments</b>										
LAPT1 Alignment	X		11 of 11							This alignment is carried forward from previous Alternative Analysis reports but is slightly refined. The refinements result in little to no changes of environmental impacts. Business displacements; Residential/business/institutional subsurface easements; Construction costs.
LAPT3 Alignment	X		11 of 11							This alignment is carried forward from previous Alternative Analysis reports. Environmental and other concerns have not changed. Adjacent to LAHSP; Business/institutional displacements; Low speed curves leaving Union Station; Residential/business/institutional subsurface easements; Construction costs.
Surface Alignment	X		11 of 11							Residential/business/institutional displacements; Cultural, Section 4(f), and visual resources; Low speed curves leaving Union Station.

ALIGNMENT ALTERNATIVES AND STATION OPTIONS	AA DECISION		REASONS FOR ELIMINATION <sup>1</sup>							ADDITIONAL OBSERVATIONS/COMMENTS
	Carried Forward	Withdrawn	Goals & Objectives <sup>2</sup>	Construction <sup>3</sup>	Incompatibility <sup>4</sup>	Right-of-Way <sup>5</sup>	Connectivity/ Accessibility <sup>6</sup>	Community Impact <sup>7</sup>	Environment <sup>8</sup>	
Notes:										

1-Reasons for Elimination: Primary (P) and secondary (S) reasons for elimination.  
 2-Goals and Objectives: The number of the Project's goals and objectives the alternative meets as defined in Proposition 1A (Assembly Bill 3034) and the Authority's 2014 Business Plan. See section 1.4 for further details of the Project's goals and objectives and Table 7-2 for a breakdown of the goals and objectives met for each alignment alternative and station option. Not all of the 14 total goals and objectives are relevant to each alternative. For example, goal number 3 applies to station locations, and, therefore, it is not applicable to the alternatives which are only alignments.  
 3-Construction: Construction of the alternative is undesirable in terms of engineering challenges, assessed using the methodology set out in section 1.5.  
 4-Incompatibility: The alternative is not consistent with existing adopted local, regional, and state plans, or is not supported by existing or future growth areas, assessed using the methodology set out in section 1.5.  
 5-Right-of-Way: The alternative does not minimize ROW acquisitions, or construction of the alternative is undesirable in terms of ROW constraints, assessed using the methodology set out in section 1.5.  
 6-Connectivity/Accessibility: Existing land use at a station option does not support transit use, assessed using the methodology set out in section 1.5.  
 7-Community Impact: The alternative does not minimize disruption to neighborhoods and communities, divides an existing community or does not minimize conflicts with community resources, assessed using the methodology set out in section 1.5.  
 8-Environment: The alternative does not minimize impacts on environmental resources or environmental quality, assessed using the methodology set out in section 1.5.

**Table 7-2 Summary of Goals and Objectives Met by Each Alternative**

ALIGNMENT ALTERNATIVES AND STATION OPTIONS	GOALS AND OBJECTIVES MET BY EACH ALTERNATIVE														SUMMARY				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	ALIGNMENT ALTERNATIVES AND STATION OPTIONS	Number of goals and objectives met	Number of relevant goals and objectives	Percent of relevant goals and objectives met	
<b>Palmdale Subsection – Alignments and Station Options</b>																			
SR 14 East and Palmdale Transportation Center Station	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A	SR 14 East and Palmdale Transportation Center Station	13	13	100%
SR 14 E/W Hybrid and Palmdale Transportation Center Station	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A	SR 14 E/W Hybrid and Palmdale Transportation Center Station	13	13	100%
SR 14 West and Palmdale West Station	✓	✓	x	✓	✓	✓	✓	x	x	✓	x	x	✓	✓	N/A	SR 14 West and Palmdale West Station	8	13	62%
<b>Santa Clarita Subsection – Alignments</b>																			
Santa Clarita North	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A	Santa Clarita North	12	12	100%
Santa Clarita South	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A	Santa Clarita South	12	12	100%

ALIGNMENT ALTERNATIVES AND STATION OPTIONS	GOALS AND OBJECTIVES MET BY EACH ALTERNATIVE													SUMMARY				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	ALIGNMENT ALTERNATIVES AND STATION OPTIONS	Number of goals and objectives met	Number of relevant goals and objectives met	Percent of relevant goals and objectives met
<b>San Fernando Valley Subsection – Alignments</b>																		
San Fernando Station	✓	✓	✗	✓	✓	✓	N/A	✗	✓	✓	✓	✓	✓	✓	San Fernando Station	11	13	85%
Branford Street Station	✓	✓	✗	✓	✓	✓	N/A	✗	✓	✓	✓	✓	✓	✓	Branford Street Station	11	13	85%
Burbank Airport Station	✓	✓	✓	✓	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	Burbank Airport Station	13	13	100%
<b>Los Angeles Subsection – Alignments</b>																		
LAPT1 Alignment	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NAPT1 Alignment	11	11	100%
LAPT3 Alignment	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NAPT3 Alignment	11	11	100%
Surface Alignment	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Surface Alignment	11	11	100%

- Provide intercity travel capacity to supplement critically overused interstate highways and commercial airports.
- Meet future intercity travel demand that will be unmet by present transportation systems and increase capacity for intercity mobility.
- Maximize intermodal transportation opportunities by locating stations in areas with good access to local mass transit or other modes of transportation.
- Improve the intercity travel experience for Californians by providing comfortable, safe, frequent, and reliable high-speed travel.

5. Provide a sustainable reduction in travel time between major urban centers.
6. Increase the efficiency of the intercity transportation system.
7. In order to reduce impacts on communities and the environment, the alignment shall follow existing transportation or utility corridors to the extent feasible.
8. Develop a practical and economically viable transportation system that can be implemented in phases and generate revenues in excess of operations and maintenance costs.
9. Provide intercity travel in a manner that minimizes urban sprawl, is sensitive to and protective of the region's natural resources, and reduces emissions and vehicle miles traveled for intercity trips.
10. Preserve wildlife corridors and mitigate impacts to wildlife movement, where feasible, in order to limit the extent to which the system may present an additional barrier to wildlife's natural movement.
11. A commitment to a blended system which focuses new high-speed infrastructure development between the state's metropolitan regions while using, to the maximum extent possible, existing regional and commuter rail systems in urban areas.
12. A commitment to blended operations at all phases of development that seeks to use new and existing rail infrastructure more efficiently through coordinated delivery of services, including interlining of trains from one system to another, as well as integrated scheduling to create seamless connections.
13. An Initial Operating Section (IOS) will extend between the Central and San Fernando Valleys and will seek to connect high-speed infrastructure to already existing modes of transportation with the goal of closing the rail gap between Bakersfield and Palmdale and connecting the Central Valley to the Los Angeles Basin in the San Fernando Valley.
14. Making early investments in the "bookends," San Francisco and the Los Angeles Basin, will upgrade existing services, build ridership, and lay the foundation for expansion of the HSR.

# CALIFORNIA HIGH-SPEED TRAIN

## Palmdale to Los Angeles Supplemental Alternatives Analysis Report Volume 2

May 2014



**CALIFORNIA**  
High-Speed Rail Authority



**U.S. Department of Transportation**  
Federal Railroad Administration

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## APPENDIX A - DETAILED EVALUATION TABLES

Table A-1: Palmdale Subsection Evaluation Matrix

Measurement Criteria	SR 14 East Alignment Alternative and Station Option (Carried Forward)	SR 14 West Alignment Alternative and Station Option (Withdrawn)	SR 14 E/W Hybrid Alignment Alternative and Station Option (Carried Forward)
<b>Design Objectives</b>			
Journey time (Lang to Palmdale)	7 minutes 40 seconds 23.5 miles	6 minutes 59 seconds 20.6 miles	8 minutes 0 seconds 22.9 miles
Intermodal Connections	Achieves the HSR objective of integrating HSR with existing intercity and regional rail systems by being closer to the Palmdale Regional Airport, providing a direct connection to Metrolink service, and providing an opportunity for transfer to the proposed High Desert Corridor project.	Does not provide a link to Metrolink service in Palmdale and is further from the Palmdale Airport than the station location associated with the other two alignment alternatives. May not provide an opportunity to directly transfer to the proposed High Desert Corridor project.	Same as SR 14 East Option
Tunnel Length	Longest – 6.0 miles Total – 10.8 miles	Longest – 5.0 miles Total – 9.4 miles	Longest – 6.9 miles Total – 11.3 miles
Operating Costs	Baseline	Lower than SR 14 East Option due to less tunnel and shorter route	Similar to SR 14 East Option
Capital Costs	1.0	0.95	1.0
Constructability	Sierra Highway and Metrolink diversion at Lake Palmdale Has deep tunnels through the mountainous areas which would present challenging construction access. Modification of dam at Lake Palmdale.	Complex structures: skew SR 14 viaduct in Palmdale Less tunneling Has deep tunnels through the mountainous areas which would present challenging construction access.	Same as SR 14 East Option
<b>Land Use</b>			
Potential for TOD	This station locations lies within the City of Palmdale. Planned land uses within 1/2-mile of the alignment include Business Parks, Single Family Residential, Regional Commercial, Neighborhood Commercial, Open Space, Lockheed Specific Plan, Airport and related uses, and Medium Density Residential uses. This location has high potential for TOD due its close proximity to existing residential, commercial areas, business parks, and the existing Palmdale Airport. Further development could occur adjacent to the Airport, which would increase development potential. Furthermore, the SR 14 East alignment and station location are consistent with City of Palmdale plans and policies to promote TOD at this location per the Palmdale Transit Village Specific Plan.	The undeveloped land use surrounding the station location does not meet the Authority's objective of minimizing impacts associated with growth by selecting existing multi-modal transportation hubs as potential stations. The area does not contain a mix of existing land uses, and it does not provide an opportunity to promote TOD at the existing Palmdale Transportation Center, which is consistent with the City of Palmdale policies.	Same as SR 14 East Option
Consistency with other planning efforts	The station is consistent with the Palmdale General Plan's objectives such as the support of regional efforts to connect the Palmdale Regional Airport with the Los Angeles International Airport with a high-speed rail line, the promotion of rail service to support industry within the City, the coordination with other jurisdictions to integrate circulation networks, the encouragement of commuter rail options between the Los Angeles Basin and Palmdale, and the establishment of a regional transportation center for improved access to major commercial centers.	This station is inconsistent with the Palmdale General Plan and does not coincide with the City of Palmdale's plans and policies to promote development within the Palmdale Transit Village Specific Plan. The station location is also inconsistent with the Palmdale General Plan's objectives such as the support of regional efforts to connect the Palmdale Regional Airport with the Los Angeles International Airport with a high-speed rail line.	Same as SR 14 East Option
<b>Disruption to Communities</b>			
Disruption to Existing Railroad	Shares UPRR ROW in Palmdale Metrolink diversion at Lake Palmdale UPRR right-of-way would need to be acquired and Metrolink/UPRR tracks realigned to accommodate the Palmdale HST station.	Least impact Metrolink realignment will be necessary near Lost Canyon Road.	Similar to SR 14 East Option
Disruption to, and Relocation of, Utilities	No known significant difference Most of this segment is aerial or in tunnel, thereby minimizing impact on utilities, except in cutting segments transitioning to tunnel. High Risk Utility conflicts include: <ul style="list-style-type: none"><li>• 1 – 30" gas crossing</li><li>• 1 – 24" water main crossing</li><li>• 1 – 24" water main relocation</li><li>• Crosses the California Aqueduct in tunnel</li></ul>	No known significant difference Most of this segment is aerial or in tunnel, thereby minimizing impact on utilities, except in cutting segments transitioning to tunnel. High Risk Utility conflicts include: <ul style="list-style-type: none"><li>• 1 – 1 x 69 KV electric relocation</li><li>• Crosses the California Aqueduct on viaduct</li></ul>	Similar to SR 14 East.
Residential Displacements	12 displacements (Acton/Aqua Dulce) 13 displacements (Palmdale)	13 displacements (Acton/Aqua Dulce) 1 displacements (Palmdale)	13 displacements (Acton/Aqua Dulce) 13 displacements (Palmdale)

Table A-1: Palmdale Subsection Evaluation Matrix

Measurement Criteria	SR 14 East Alignment Alternative and Station Option (Carried Forward)	SR 14 West Alignment Alternative and Station Option (Withdrawn)	SR 14 E/W Hybrid Alignment Alternative and Station Option (Carried Forward)
<b>Business Displacement</b>	8 commercial parcels impacted 8 industrial parcels impacted	1 commercial parcel impacted 6 industrial parcels impacted	8 commercial parcels impacted 8 industrial parcels impacted
<b>Proximity to Schools</b>	Schools within 1/4-mile on either side of the construction footprint: 3	Schools within 1/4-mile on either side of the construction footprint: 0	Schools within 1/4-mile on either side of the construction footprint: 1
<b>Proximity to Landfills</b>	Landfills within 1/4-mile on either side of the construction footprint: 0	Landfills within 1/4-mile on either side of the construction footprint: 0	Landfills within 1/4-mile on either side of the construction footprint: 0
<b>Local Traffic Effects Near Stations</b>	Both east and west station sites are projected to generate comparable boarding levels with similar overall increase in traffic.  Since station is to be located proximate to existing Metrolink facility, and on Sierra Highway, a major arterial route, traffic impacts are likely to be manageable. There will be some increase in cross town traffic from SR-14 to the station, likely along Avenues N & P, as regional traffic seeks to access the station. Local traffic impacts will be studied in detail in future environmental documentation.	Both east and west station sites are projected to generate comparable boarding levels with similar overall increase in traffic.  This station option is closest to the SR 14 highway. This will provide more direct access to/from the HST station, and reduce traffic impacts in Palmdale broadly. However, the proposed station is immediately adjacent to residential communities, and so, while broader community traffic impacts may be lessened at this location, the specific impacts to the adjacent residential communities are likely to be quite significant and will require careful study to assess the full range of potential impacts.	Same as SR 14 East Option
<b>Highway Grade Separations and Closures</b>	9 grade separations, 3 closures	9 grade separations, 3 closures	9 grade separations, 3 closures
<b>Environmental Resources</b>			
<b>Potential Section 4(f) and 6(f) Resources</b>	<b>Biological/Aquatic Resources</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.  <b>Cultural Resources within the APE</b> <sup>1,2</sup> 9 significant Archaeological Sites within archaeology study area (direct impact area only)  No significant Historic Architectural Sites within historic architecture study area (direct and indirect impact areas)  <b>Parklands:</b> Section 4(f) will be applicable to all parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds.  There are 6.4 acres of parklands and 9 bike paths within 100 feet of the alignment, and 112.7 acres of parklands and 12 bike paths within 1,000 feet of the alignment which may have a likelihood of an impact under Section 4(f). Final determination of national, state, or local significance, the nature of	<b>Biological/Aquatic Resources</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.  <b>Cultural Resources within the APE</b> 5 significant Archaeological Sites within archaeology study area (direct impact area only)  1 significant Historic Architectural Site within historic architecture study area (direct and indirect impact areas). Assigned 'Priority 1' Section 4(f) priority categorization number, due to location in area of direct impacts.  <b>Parklands:</b> Section 4(f) will be applicable to all parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds.  There are 1.5 acres of parklands and 4 bike paths within 100 feet of the alignment, and 93 acres of parklands and 5 bike paths within 1,000 feet of the alignment which may have a likelihood of an impact under Section 4(f). Final determination of national, state, or local significance, the nature of	<b>Biological/Aquatic Resources</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.  <b>Cultural Resources within the APE</b> 14 significant Archaeological Sites within archaeology study area (direct impact area only)  No significant Historic Architectural Sites within historic architecture study area (direct and indirect impact areas)  <b>Parklands:</b> Section 4(f) will be applicable to all parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds.  There are 6.4 acres of parklands and 8 bike paths within 100 feet of the alignment, and 71.8 acres of parklands and 11 bike paths within 1,000 feet of the alignment which may have a likelihood of an impact under Section 4(f). Final determination of national, state, or local significance, the nature of Section 4(f) impacts, as well as determining if any of these lands were

<sup>1</sup> Includes Significant Archaeological and Historic Architectural Sites. For the purposes of this AA, the term 'significant' refers to Archaeological and Architectural Historic Sites that are listed, determined eligible, or that appear eligible for listing in the NRHP and CRHR, to which Section 4(f) would be applicable.

<sup>2</sup> If Historic Architectural sites are present, a Section 4(f) priority categorization number is included. In April 2013, Regional Consultant staff developed a memorandum for the PMT that categorized all significant Architectural Historic Resources into four groups, based on past eligibility determinations (NRHP, CRHR), current field survey data, and potential impact type (direct or indirect) from the construction and operation of the Project alignment. The Section 4(f) priority categorization identified resources that could benefit from more definite historical eligibility determinations, in order to potentially reduce the number of Section 4(f) resources, and included the following groups: **Priority 1:** Potentially Directly Affected NRHP/CRHR Eligible Properties; Not Previously Found NRHP/CRHR Eligible, Newly Identified, **Priority 2:** Potentially Directly Affected NRHP/CRHR Eligible Properties; Previously Found NRHP/CRHR Eligible, **Priority 3:** Potentially Indirectly Affected NRHP/CRHR Eligible Properties; Not Previously Found NRHP/CRHR Eligible, Newly Identified, **Priority 4:** Potentially Indirectly Affected NRHP/CRHR Eligible Properties; Previously Found NRHP/CRHR Eligible. Archaeological sites have not been assigned categorization numbers.

Table A-1: Palmdale Subsection Evaluation Matrix

Measurement Criteria	SR 14 East Alignment Alternative and Station Option (Carried Forward)	SR 14 West Alignment Alternative and Station Option (Withdrawn)	SR 14 E/W Hybrid Alignment Alternative and Station Option (Carried Forward)
	Section 4(f) impacts, as well as determining if any of these lands were acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.	Section 4(f) impacts, as well as determining if any of these lands were acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.	acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.
<b>Biological/Aquatic Resources</b>	<b>Direct Impacts</b> - Streams/Creeks/Canyons – 6,800 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 0.3 acres; Wetlands – 0.5 acres <b>Indirect Impacts</b> - Streams/Creeks/Canyons – 20,500 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 2.9 acres; Wetlands – 4.3 acres	<b>Direct Impacts</b> - Streams/Creeks/Canyons – 2,800 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 0 acres; Wetlands – 0.14 acres <b>Indirect Impacts</b> - Streams/Creeks/Canyons – 15,900 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 0 acres; Wetlands – 0.77 acres	<b>Direct Impacts</b> - Streams/Creeks/Canyons – 5,400 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 0.11 acres; Wetlands – 0.64 acres <b>Indirect Impacts</b> - Streams/Creeks/Canyons – 22,600 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 2.4 acres; Wetlands – 3.8 acres
<b>Cultural Resources</b>	124 State previously recorded Archeological Sites within 1/2 mile of alternative alignment  83 State previously recorded Historic Architectural Sites within 1/2 mile of the alignment  These cultural resources are located outside of the area of direct impact for the station construction, and therefore are not anticipated to be adversely affected by the project.	43 State previously recorded Archeological Sites within 1/2 mile of alternative alignment  29 State previously recorded Historic Architectural Sites within 1/2 mile of the alignment  These cultural resources are located outside of the area of direct impact for the station construction, and therefore are not anticipated to be adversely affected by the project.	85 State previously recorded Archeological Sites within 1/2 mile of alternative alignment  56 State previously recorded Historic Architectural Sites within 1/2 mile of the alignment  These cultural resources are located outside of the area of direct impact for the station construction, and therefore are not anticipated to be adversely affected by the project.
<b>Parklands</b>	<b>Surface Alignment Impacts within 100 feet of the alignment:</b> 6.4 acres of parklands (Metrolink Station Greenbelt); 9 bike paths <b>Surface Alignment Impacts within 1,000 feet of the alignment:</b> 112.7 acres of parklands (Brandman University - 4.2 acres, High Desert School - 12.0 acres, Metrolink Station Greenbelt - 21.9 acres, Palmdale Fin and Feather Club - 9.5 acres, Rex Parris High School - 4.8 acres, Vasquez High School - 16.4 acres, Vasquez Rocks County Park - 43.9 acres); 12 bike paths	<b>Surface Alignment Impacts within 100 feet of the alignment:</b> 1.5 acres of parklands (Pelona Vista Park - 1.4 acres, Palmdale Learning Plaza - 0.1 acre); 4 bike paths <b>Surface Alignment Impacts within 1,000 feet of the alignment:</b> 93.0 acres of parklands (Desert Sands Park - 15.2 acres, Pelona Vista Park - 29.7 acres, Vasquez Rocks County Park - 34.6 acres, Palmdale Learning Plaza - 13.5 acres); 5 bike paths	<b>Surface Alignment Impacts within 100 feet of the alignment:</b> 6.4 acres of parklands (Metrolink Station Greenbelt); 8 bike paths <b>Surface Alignment Impacts within 1,000 feet of the alignment:</b> 71.8 acres of parklands (Brandman University - 4.3 acres, Metrolink Station Greenbelt - 21.9 acres, Palmdale Fin and Feather Club - 9.3 acres, Rex Parris High School - 4.8 acres, Vasquez Rocks County Park - 31.5 acres); 11 bike paths
<b>Agricultural Lands</b>	0 acres of agricultural land within 100 feet of the alignment 47 acres of agricultural land within 1/2 mile of the alignment	0.08 acres of agricultural land within 100 feet of the alignment 92 acres of agricultural land within 1/2 mile of the alignment	0 acres of agricultural land within 100 feet of the alignment 68 acres of agricultural land within 1/2 mile of the alignment
<b>Demographics and Socioeconomic Composition (Related to the station option)</b>	The entire station buffer area Census tract whose population is over 50% minority.  Approximately 2/3 of the station buffer area contains Census tracts with a high percentage of population living below poverty level relative to the County average.  Approximately 1/3 of the station buffer area contains Census tracts with a high Limited English Proficiency (LEP) population relative to the County average.	The entire station buffer area contains Census tracts whose population is over 50% minority.  The majority of the station buffer area contains Census tracts with a high percentage of population living below poverty level relative to the County average.  Also, small portion of the station buffer area contains Census tracts with a high LEP population relative to the County average.	Same as SR 14 East Station Option.
<b>Community Resources (Related to the station option)</b>	The station buffer area contains 3 churches, 6 parks/recreational uses, 1 police station, 1 school, and 1 transit station.  <ul style="list-style-type: none"> <li>• Right Spirit Fellowship Church (306 feet)</li> <li>• Unity Church-Antelope Valley (384 feet)</li> <li>• True Vine Gospel Church (870 feet)</li> <li>• Existing Bike Trail (118 feet)</li> <li>• Existing Bike Trail (26 feet)</li> <li>• Existing Bike Trail (22 feet)</li> <li>• 2 Existing Bike Trails (within the proposed right-of-way)</li> <li>• Desert Sand Park (306 feet)</li> <li>• Palmdale Sheriff's Station (204 feet)</li> <li>• Rex Parris High School (271 feet)</li> <li>• Palmdale Transportation Center (within the proposed right-of-way)</li> </ul> Note: Distances in the parenthesis are a distance from a site to the nearest proposed right of way	The station buffer area contains 2 parks/recreational uses and 1 shopping center.  <ul style="list-style-type: none"> <li>• 2 Existing Bike Trails (within the proposed right-of-way)</li> <li>• Palmdale Promenade (within the proposed right-of-way)</li> </ul>	Same as SR 14 East Station Option.

**Table A-1: Palmdale Subsection Evaluation Matrix**

Measurement Criteria	SR 14 East Alignment Alternative and Station Option (Carried Forward)	SR 14 West Alignment Alternative and Station Option (Withdrawn)	SR 14 E/W Hybrid Alignment Alternative and Station Option (Carried Forward)
<b>Displacement of Community Resources (Related to the station option)</b>	Two existing bike trails are located within the known right-of-way of the station and would be potentially displaced.	Two existing bike trails and 1 shopping center are within the station buffer area and are located within the known right-of-way and would be potentially displaced.	Same as SR 14 East Station Option.
<b>Environmental Justice (Related to the station option)</b>	The Palmdale East Station Option has the potential to have moderate to minimal direct and indirect impacts to community resources that are important to communities of Environmental Justice concern. Potential displacement of these community resources would be limited. Although, the proposed station would be located within an established community, it would be located adjacent to a similar transportation existing use and on an existing railroad right-of-way. This means that community cohesion impacts would be moderate to minimal.	The Palmdale West Station Option has the potential to have minimal direct and indirect impacts to community resources that are important to communities of Environmental Justice concern. Potential displacement of these community resources would be limited. Furthermore, the proposed station is not located within an established community and is unlikely to have community cohesion impacts.	Same as SR 14 East Station Option.
<b>Noise and Vibration</b> (distances from centerline of alignment to nearest point on parcel unless noted)	361 residential within ½ mile (Acton/Aqua Dulce) Vasquez High School - 10 ft to parcel, 600 ft to buildings High Desert School - 180 ft to parcel, 750 ft to buildings Library – at 1500 ft 2373 residential within ½ mile (Palmdale) Palmdale City Hall – at 300 ft Palmdale Youth Library – at 310 ft Palmdale Main Library – at 450 ft Rex Parris High School – at 170 ft Palmdale Learning Plaza – no impact Super 8 Motel – no impact	123 residential within ½ mile (Acton/Aqua Dulce) Vasquez High School - at 2580 ft High Desert School – no impact Library – no impact 2412 residential within ½ mile (Palmdale) Palmdale City Hall – no impact Palmdale Youth Library – no impact Palmdale Main Library – no impact Rex Parris High School – no impact Palmdale Learning Plaza – at 60 ft Super 8 Motel – at 160 ft	131 residential within ½ mile (Acton/Aqua Dulce) Vasquez High School - at 2580 ft High Desert School – no impact Library – no impact 2373 residential within ½ mile (Palmdale) Palmdale City Hall – at 300 ft Palmdale Youth Library – at 310 ft Palmdale Main Library – at 450 ft Rex Parris High School – at 170 ft Palmdale Learning Plaza – no impact Super 8 Motel – no impact
<b>Change in Visual and Scenic Resources</b> <u>Visual Character:</u> The most potential for impacts to visual character is where the alignment has a high vertical profile such as viaduct. <u>Views and Vistas:</u> The presence of viaducts in the vicinity of areas with views and vistas would have the potential for adverse impacts.	Slightly greater impact in Acton since above ground for longer distance. <u>Visual Character:</u> Approximately 4.6% of this alignment's profile is on viaduct. <u>Views and Vistas:</u> Approximately 0.4 miles of viaduct located within the viewshed of residential and other sensitive uses. This alternative has a moderate visual impact to residential areas and the least impact to recreational areas near the Angeles National Forest and Vasquez Rocks.	Less impact in Acton <u>Visual Character:</u> Approximately 4.5% of this alignment's vertical profile is on viaduct. <u>Views and Vistas:</u> Approximately 0.3 miles of viaduct located within the viewshed of residential and other sensitive uses. This alternative has a moderate visual impact on residential areas and minimizes impacts to recreational areas and scenic vistas.	Less impact in Acton <u>Visual Character:</u> Approximately 2.2% of this alignment's vertical profile is on viaduct. <u>Views and Vistas:</u> Approximately 0.3 miles of viaduct located within the viewshed of residential and other sensitive uses. Similar to the SR 14 East option, this alternative has a moderate visual impact to residential areas and the least impact to recreational areas near the Angeles National Forest and Vasquez Rocks. Further, the reduced length of viaduct would have slightly lower effect on visual character and any scenic views or vistas.
<b>Geological and Soil Constraints</b> <b>Geotechnical Constraints</b>	Tunnel length of 10.8 miles. 0.98 miles of the alternative's non-tunnel reaches are within 150 feet of CGS landslide hazard zones or historical landslide zones. 1.87 miles of the alternative's non-tunnel reaches are located within a liquefaction hazard zone. Tunnel reaches are expected to be either in bedrock or below the liquefiable soil zone. None of the alternative is within a half-mile radius city of Los Angeles Methane Hazard Zone. 0.53 miles are in Alquist-Priolo Earthquake Fault Zones. Alignment crosses the active San Andreas and Santa Susana faults and crosses the potentially active San Gabriel, Whitney Canyon, Aqua Dulce and Little Escondido faults. 0.67 miles are in the Lake Palmdale Dam Flood Inundation Zone. Key issues will be those associated with tunneling, including ground support and control of groundwater inflows.	Tunnel length of 9.4 miles. 1.07 miles of the alternative's non-tunnel reaches are within 150 feet of CGS landslide hazard zones or historical landslide zones. 1.01 miles of the alternative's non-tunnel reaches are located within a liquefaction hazard zone. Tunnel reaches are expected to be either in bedrock or below the liquefiable soil zone. None of the alternative is within a half-mile radius city of Los Angeles Methane Hazard Zone. 0.39 miles are in Alquist-Priolo Earthquake Fault Zones. Alignment crosses the active San Andreas and Santa Susana faults and crosses the potentially active San Gabriel, Whitney Canyon, Aqua Dulce and Little Escondido faults. None of the alternative is within a Dam Flood Inundation Zone. Key issues will be those associated with tunneling, including ground support and control of groundwater inflows.	Tunnel length of 10.7 miles. 1.08 miles of the alternative's non-tunnel reaches are within 150 feet of CGS landslide hazard zones or historical landslide zones. 0.42 miles of the alternative's non-tunnel reaches are located within a liquefaction hazard zone. Tunnel reaches are expected to be either in bedrock or below the liquefiable soil zone. None of the alternative is within a half-mile radius city of Los Angeles Methane Hazard Zone. 0.47 miles are in Alquist-Priolo Earthquake Fault Zones. Alignment crosses the active San Andreas fault and the potentially active Aqua Dulce and Little Escondido faults. 0.5 miles are in the Lake Palmdale Dam Flood Inundation Zone. Key issues will be those associated with tunneling, including ground support and control of groundwater inflows.

**Table A-1: Palmdale Subsection Evaluation Matrix**

Measurement Criteria	SR 14 East Alignment Alternative and Station Option (Carried Forward)	SR 14 West Alignment Alternative and Station Option (Withdrawn)	SR 14 E/W Hybrid Alignment Alternative and Station Option (Carried Forward)
<b>Hazardous Materials</b>	<p>No difference</p> <p>Through developed portions and urban areas, hazardous materials are likely to be encountered in the form of contaminated soils and/or contaminated groundwater. Demolition of existing structures may generate hazardous wastes.</p> <p>Hazardous materials likely within existing rail alignments and former rail yards. Expect hydrocarbons including polynuclear aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), lead, and arsenic in near surface soils (0 to 5 feet).</p> <p>Through the mountainous region, rock formations may contain naturally occurring crude oil and white oil. This may be encountered during surface construction and tunneling as an asphalt-like and/or kerosene-like substance.</p> <p>Has an excavation material quantity of 9.9M cubic yards and a dump quantity of 5.3M cubic yards, based on quantities from Quantm.</p>	<p>No difference</p> <p>Through developed portions and urban areas, hazardous materials are likely to be encountered in the form of contaminated soils and/or contaminated groundwater. Demolition of existing structures may generate hazardous wastes.</p> <p>Hazardous materials likely within existing rail alignments and former rail yards. Expect hydrocarbons including polynuclear aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), lead, and arsenic in near surface soils (0 to 5feet).</p> <p>Through the mountainous region, rock formations may contain naturally occurring crude oil and white oil. This may be encountered during surface construction and tunneling as an asphalt-like and/or kerosene-like substance.</p> <p>Has an excavation material quantity of 8.0M cubic yards and a dump quantity of 4.0M cubic yards, based on quantities from Quantm.</p>	<p>No difference</p> <p>No sites are listed as potential environmental concerns in or adjacent to the SR 14 E/W Hybrid Option.</p> <p>Hazardous materials are likely within existing rail alignments and former rail yards. Expect hydrocarbons including polynuclear aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), lead, and arsenic in near surface soils (0 to 5feet).</p> <p>Through the mountainous region, rock formations may contain naturally occurring crude oil and white oil. This may be encountered during surface construction and tunneling as an asphalt-like and/or kerosene-like substance.</p>
<b>Agency and Public Input</b>	<p>Acton and Agua Dulce (including the Town Councils, School Board and School District) do not support any alternatives given the potential for impact to schools and residential properties including noise/vibration and visual blight. They are also concerned about groundwater impacts to wells in the area during construction as well as noise and access across the rail line; they are interested in preserving their rural community makeup.</p> <p>This alignment will impact Una Lake which is a concern of the Antelope Valley Conservancy.</p> <p>The Authority has explained at Stakeholder Working Groups that all alignment options will be refined as the environmental process develops, with a view to removing/minimizing any impacts and implementing mitigation measures where appropriate.</p> <p>The City of Palmdale prefers SR 14 East and SR 14 E/W Hybrid options that have the station at the Palmdale Transportation Center.</p>	<p>Acton and Agua Dulce (including the Town Councils, School Board and School District) do not support any alternatives given the potential for impact to schools and residential properties including noise/vibration and visual blight. They are also concerned about groundwater impacts to wells in the area during construction as well as noise and access across the rail line; they are interested in preserving their rural community makeup.</p> <p>The City of Palmdale does not prefer this alternative because it would locate the Palmdale station one-mile west of the Palmdale Transportation Center.</p>	<p>Acton and Agua Dulce (including the Town Councils, School Board and School District) do not support any alternatives given the potential for impact to schools and residential properties including noise/vibration and visual blight.</p> <p>The city of Palmdale prefers SR 14 East and SR 14 E/W Hybrid options that have the station at the Palmdale Transportation Center.</p>

**Table A-2: Santa Clarita Subsection Evaluation Matrix**

Measurement Criteria	Santa Clarita South Alignment (SCS) (Carried forward)	Santa Clarita North Alignment (SCN) (Carried Forward)
<b>Design Objectives</b>		
Journey time (Sylmar to Lang)	4 minutes 45 seconds 15.7 miles	4 minutes 30 seconds 15.7 miles
Tunnel Length	7 miles	8.9 miles
Operating Costs	Lower due to shorter tunnel A Maintenance of Infrastructure facility cannot be accommodated between Santa Clarita and Lang Station.	Higher due to longer tunnel A Maintenance of Infrastructure facility cannot be accommodated between Santa Clarita and Lang Station.
Capital Costs (Between south portal of Bee Canyon Tunnel and south portal of Santa Susana Tunnel)	\$3.1 billion	\$3.5 billion
Constructability	Simpler construction	More complex and longer construction duration due to extended tunnel
<b>Disruption to Communities</b>		
Disruption to Existing Railroad	Metrolink tracks to be realigned at Lang Station, Sand Canyon, and east of Lost Canyon Road.	Metrolink tracks to be realigned at Lang Station
Disruption to and Relocation of Utilities	No known significant difference Most of this segment is in tunnel, thereby minimizing impact on utilities; except at tunnel portals, especially the transition area between the viaduct over I-210 and the south Santa Susana Tunnel portal. High Risk Utility conflicts include: <ul style="list-style-type: none"> <li>• 30" Gas line relocation</li> <li>• 30" Gas line crossing</li> <li>• 3 x 230 KV Electrical relocation (overhead)</li> <li>• 1 x 115 KV &amp; 1000 DC Electrical relocation (overhead)</li> <li>• 48" Storm drain relocation</li> <li>• 39" Storm drain relocation</li> <li>• 8' Storm Drain relocation</li> <li>• 20" Oil line relocation</li> <li>• 26" Gas line removal (abandoned)</li> </ul>	No known significant difference Most of this segment is in tunnel, thereby minimizing impact on utilities; except at tunnel portals, especially the transition area between the viaduct over I-210 and the south Santa Susana Tunnel portal. High Risk Utility conflicts include: <ul style="list-style-type: none"> <li>• 30" Gas line relocation</li> <li>• 3 x 230 KV Electrical relocation (overhead)</li> <li>• 1 x 115 KV &amp; 1000 DC Electrical relocation (overhead)</li> <li>• 48" Storm drain relocation</li> <li>• 8' Storm Drain relocation</li> <li>• 20" Oil line relocation</li> <li>• 26" Gas line removal (abandoned)</li> </ul>
Residential Parcels Impacted	13 residences on impacted parcels (Road Runner, Oak Springs and Whitewater canyon)	7 residences on impacted parcels
Business Parcels impacted	Minimal impact to planned Vista Canyon Development. Cascades residential project impacted by at-grade alignment immediately north of I-210.	No impact to planned Vista Canyon Development, as tunnel would be beneath the development. Cascades residential project impacted by at-grade alignment immediately north of I-210. Greater impact to approved Golden Oaks Ranch sound studios.
Proximity to Schools	Schools within 1/4-mile on either side of the construction footprint: 4	Schools within 1/4-mile on either side of the construction footprint: 5
Proximity to Landfills	Landfills within 1/4-mile on either side of the construction footprint: 0	Landfills within 1/4-mile on either side of the construction footprint: 0
Highway Grade Separations and Closures	Roxford Street grade separated, Bledsoe Street is closed.	Roxford Street grade separated, Bledsoe Street is closed.

**Table A-2: Santa Clarita Subsection Evaluation Matrix**

Measurement Criteria	Santa Clarita South Alignment (SCS) (Carried forward)	Santa Clarita North Alignment (SCN) (Carried Forward)
<b>Environmental Resources</b>		
<b>Potential Section 4(f) and 6(f) Resources</b>	<p><b>Biological/Aquatic Resources:</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.</p> <p><b>Cultural Resources within the APE:</b> 3 significant Archaeological Sites within archaeology study area (direct impact area only).</p> <p>No significant Historic Architectural Sites within historic architecture study area (direct and indirect impact areas)</p> <p><b>Parklands:</b> Section 4(f) will be applicable to all parks and recreational areas of national, state, or local significance that are both publically owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds.</p> <p>There are 23 acres of parklands and 3 bike paths within 100 feet of the alignment. The 23 acres of parklands within 100 feet are over areas of tunnel which may have potential for noise and vibration impacts. There are 38.1 acres of parklands and 4 bike paths within 1,000 feet of the alignment which may have a likelihood of an impact under Section 4(f). Final determination of national, state, or local significance, the nature of Section 4(f) impacts, as well as determining if any of these lands were acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.</p>	<p><b>Biological/Aquatic Resources:</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.</p> <p><b>Cultural Resources within the APE:</b> 4 significant Archaeological Sites within archaeology study area (direct impact area only)</p> <p>No significant Architectural Historic Sites within historic architecture study area (direct and indirect impact areas)</p> <p><b>Parklands:</b> Section 4(f) will be applicable to all parks and recreational areas of national, state, or local significance that are both publically owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds.</p> <p>There are 19 acres of parklands and 4 bike paths within 100 feet of the alignment. The 19 acres of parklands within 100 feet are over areas of tunnel which may have potential for noise and vibration impacts. There are 0 acres of parklands and 4 bike paths within 1,000 feet of the alignment which may have a likelihood of an impact under Section 4(f). Final determination of national, state, or local significance, the nature of Section 4(f) impacts, as well as determining if any of these lands were acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.</p>
<b>Biological/Aquatic Resources</b>	<p><b>Direct Impacts</b> - Streams/Creeks/Canyons – 1,743 linear feet; Lakes/Ponds/Swamps/Reservoirs – 3.7 acres; Arroyo Toad – 6.8 acres; Gnatcatcher – 1.1 acres</p> <p><b>Indirect Impacts</b> - Streams/Creeks/Canyons – 14,384 linear feet ; Lakes/Ponds/Swamps/Reservoirs – 24 acres; Arroyo Toad – 31 acres; Gnatcatcher – 8.3 acres</p>	<p><b>Direct Impacts</b> - Streams/Creeks/Canyons – 1,757 linear feet; Lakes/Ponds/Swamps/Reservoirs – 2.5 acres; Arroyo Toad – 5.9 acres; Gnatcatcher – 1.9 acres</p> <p><b>Indirect Impacts</b> - Streams/Creeks/Canyons – 7,471 linear feet; Lakes/Ponds/Swamps/Reservoirs – 14 acres; Arroyo Toad – 29 acres; Gnatcatcher – 8.3 acres</p>
<b>Cultural Resources</b>	<p>17 State previously recorded Archeological Sites within ½ mile of alternative alignment</p> <p>11 State previously recorded Historic Architectural Sites within ½ mile of alternative alignment</p> <p>These cultural resources are located outside of the area of direct impact for the station construction, and therefore are not anticipated to be adversely affected by the project.</p> <p>Lang Station Storage Historical site – directly impacted</p> <p>Insufficient information to definitively determine impacts to paleontological resources</p>	<p>17 State previously recorded Archeological Sites within ½ mile of alternative alignment</p> <p>11 State previously recorded historic architectural Sites within ½ mile of alternative alignment</p> <p>These cultural resources are located outside of the area of direct impact for the station construction, and therefore are not anticipated to be adversely affected by the project.</p> <p>Lang Station Storage Historical site – directly impacted</p> <p>Greater impacts to any paleontological resources, if present, due to increased tunnel length.</p>

**Table A-2: Santa Clarita Subsection Evaluation Matrix**

Measurement Criteria	Santa Clarita South Alignment (SCS) (Carried forward)	Santa Clarita North Alignment (SCN) (Carried Forward)
<b>Parklands</b>	<p><b>Surface Alignment Impacts within 100 feet of the alignment:</b> 0 acres of parklands; 3 bike paths</p> <p><b>Surface Alignment Impacts within 1,000 feet of the alignment:</b> 38.1 acres of parklands (Angeles National Forest – 25.8 acres, Pinecrest Schools - 4.3 acres, Sulphur Springs Community School - 5.6 acres, El Dorado Avenue Elementary School - 2.4 acres); 4 bike paths</p> <p><b>Alignment in Tunnel (Potential for vibration impacts under Section 4(f)):</b> 23.0 acres of parklands within 100 feet (Whitney Canyon Park– 19.1 acres, Angeles National Forest – 1.4 acre, Fair Oaks Ranch Community School - 2.5 acres)</p>	<p><b>Surface Alignment Impacts within 100 feet of the alignment:</b> 0 acres of parklands; 3 bike paths</p> <p><b>Surface Alignment Impacts within 1,000 feet of the alignment:</b> 0 acres of parklands; 4 bike paths</p> <p><b>Alignment in Tunnel (Potential for vibration impacts under Section 4(f)):</b> 19 acres of parklands within 100 feet (Whitney Canyon Park – 17.8 acres, Angeles National Forest – 1.2 acres)</p>
<b>Agricultural Lands</b>	19 acres of agricultural land within 100 feet of the alignment 95 acres of agricultural land within ½ mile of the alignment	4 acres of agricultural land within 100 feet of the alignment 61 acres of agricultural land within ½ mile of the alignment
<b>Noise and Vibration</b> (distances from centerline of alignment to nearest point on parcel unless noted)	1,552 residences within ½ mile of surface alignment Church of the Canyons – parcel directly impacted, 195 ft to building Sulphur Springs Community Elementary School – 330 ft from surface alignment Pine Crest Schools – 230 ft from surface alignment Possible vibration impacts to future Golden Oaks Ranch Expansion	369 residences within ½ mile of surface alignment Church of the Canyons – subsurface easement will be required for alignment in tunnel Sulphur Springs Community Elementary School – alignment in tunnel at 370 ft from tunnel alignment Pine Crest Schools – alignment in tunnel at 360 ft from tunnel alignment Possible vibration impacts to future Golden Oaks Ranch Expansion
<b>Change in Visual and Scenic Resources</b>	<p><b>Visual Character:</b> Approximately 21% of this alignment's vertical profile is on a viaduct.</p> <p><b>Views and Vistas:</b> Approximately 2.2 miles of viaduct that would be located within the viewshed of residential and other sensitive uses.</p>	<p><b>Visual Character:</b> Approximately 17% of this alignment's profile is on a viaduct.</p> <p><b>Views and Vistas:</b> Approximately 1.6 miles of viaduct located within the viewshed of residential and other sensitive uses</p>
<b>Geological and Soil Constraints</b>	Has a tunnel length of 7 miles. 1.2 miles of the alternative's non-tunnel reaches are within 150 feet of CGS landslide hazard zones or historical landslide zones. 3.4 miles of the alternative's non-tunnel reaches are located within a liquefaction hazard zone. Tunnel reaches are expected to be either in bedrock or below the liquefiable soil zone. 0.7 miles of the alternative is within a half-mile radius city of Los Angeles Methane Hazard Zone. 0.45 miles are in Alquist-Priolo Earthquake Fault Zones. Alignment crosses the active Santa Susana fault and the potentially active Whitney Canyon, San Gabriel and Agua Dulce faults. None of the alternative is within a Dam Flood Inundation Zone. Key issues will be those associated with tunneling, including ground support and control of groundwater	Has a tunnel length of 8.9 miles. 0.7 miles of the alternative's non-tunnel reaches are within 150 feet of CGS landslide hazard zones or historical landslide zones. 2.3 miles of the alternative's non-tunnel reaches are located within a liquefaction hazard zone. Tunnel reaches are expected to be either in bedrock or below the liquefiable soil zone. 0.7 miles of the alternative is within a half-mile radius city of Los Angeles Methane Hazard Zone. 0.45 miles are in Alquist-Priolo Earthquake Fault Zones. Alignment crosses the active Santa Susana fault and the potentially active Whitney Canyon, San Gabriel and Agua Dulce faults. None of the alternative is within a Dam Flood Inundation Zone. Key issues will be those associated with tunneling, including ground support and control of groundwater
<b>Avoidance of Hazardous Materials</b>	No known difference	No known difference
<b>Agency and Public Input</b>	Sand Canyon Homeowners Association and stakeholders are concerned about the potential for noise/vibration, visual impacts and property acquisitions. The Sulphur Springs School Board would prefer that this alignment not be carried forward.	This option is strongly favored by Sand Canyon Homeowners Association, stakeholders and the Sulphur Springs School Board.

**Table A-3: San Fernando Valley Subsection Evaluation Matrix**

Measurement Criteria	Optional Burbank Airport Station Location (Carried Forward)	Optional Branford Street Station Location (Withdrawn)	Optional San Fernando Station Location (Withdrawn)
<b>Design Objectives</b>			
<b>Intermodal Connections</b>	<p>Best linkage with Bob Hope Airport and its planned transit center (1 mile away). Less than half a mile of I-5 freeway, reached along Hollywood Way or North Buena Vista Blvd. Co-located Metrolink stop would be ¼-mile from the planned Burbank Airport-Hollywood Way Metrolink station and 3 miles from existing Downtown Burbank Metrolink Station.</p> <p>Currently Metro bus routes 94, 169, 222, and 794 as well as Burbank Bus's Empire to Downtown Shuttle pass within 1,000 feet of the station site. Metro route 292 passes within 1,500 feet. Some of these routes would be adjusted and new routes introduced to serve the HSR station.</p>	<p>One mile from I-5, with a partial interchange at Branford St., and a full interchanges at Osborne St. and Laurel Canyon Blvd/Sheldon St. Within a half mile of Whiteman Airport. Potential for co-locating one of two Metrolink stations within 4 miles.</p> <p>Currently Metro bus routes 224, 794, and 94 (late night only) pass by the station site. In addition, Metro routes 166 and 364 traverses the HST alignment within 1000 feet of the station site. Some of these routes would be adjusted and new routes introduced to serve the HSR station.</p>	<p>Over one mile from SR 118 along San Fernando Road, within 1 mile of I-5 along Brand Boulevard.</p> <p>Currently Metro bus routes 224, 230, 239, 734, 794, and 94 (late night only), as well as LADOT bus route 574 pass by the station site. In addition, Route 234 traverses the HST alignment within 1000 feet of the station site. Some of these routes would be adjusted and new routes introduced to serve the HSR station.</p>
<b>Operating Costs</b>	1.0	1.0	1.0
<b>Capital Cost Factor</b>	1.0	1.1	1.1
<b>Land Use</b>			
<b>Transit Oriented Development (TOD) Potential</b>	The proposed station platform location is within the City of Burbank. The platform location lies within Burbank's Golden State Redevelopment Plan Area. The planned land uses within a quarter mile are industrial, residential, and public. Though there is significant airport industrial land uses currently, there is potential to create a substantial mixed-use TOD Planning area, that takes advantage of the large land area that can be assembled proximate to the station.	The proposed station lies within the City of Los Angeles – Arleta/Pacoima Community Plan Area. The majority of the area immediately surrounding the proposed station location is currently industrial land, both developed and open space (water recharge ponds, LADWP Valley Steam Plant). The City Redevelopment Agency has identified this area for redevelopment, and, as such, could enhance TOD opportunity if sufficient acreage can be assembled. There is the potential to assemble a significant site that could be redeveloped as a TOD opportunity, by using tunnel excavation spoil to partially fill the quarry. However, existing near-by industrial land uses outside of the station area do not benefit from, or cater to, TOD land use at this site, and the surrounding water recharge ponds and power plant constrain TOD potential.	The proposed station lies within the City of San Fernando, Corridors Specific Plan and Redevelopment Project Area #1. The planned land uses within a quarter mile are commercial, multi-use, public, industrial, and residential. The presence of commercial and public uses appears to have a high potential for TOD, however, since most of the area immediately adjacent to the station area is developed as low density residential, it may be challenging to create a significant parcel to support an ambitious TOD opportunity.
<b>Consistency with Other Planning</b>	Overall, the potential station platform location is consistent with local planning efforts and adopted plans. The Burbank Center Specific Plan, and Burbank Redevelopment Plan – Golden State objectives, policies and goals emphasize integration and enhancement of multi-modal transportation systems.	Overall, the potential station platform location is consistent with local planning efforts and adopted plans. The City of Los Angeles – Arleta/Pacoima Community Plan Area objectives, policies, and goals emphasize integration and enhancement of multi-modal transportation systems.	Overall, the potential station is consistent with some of the objectives of the San Fernando General Plan (attract new commercial activities, promote economic vitality), while inconsistent with others (retain the small town character, conserve single family neighborhoods).
<b>Constructability</b>			
<b>Constructability</b>	Expected to be most straightforward to construct.	Expected to be more difficult to construct because of the need for a grade separation.	Expected to be more difficult to construct because of the need for a grade separation beneath the station building
<b>Disruption to existing railroads</b>	Included within alignment data	Similar to Burbank Airport Station Location	Similar to Burbank Airport Station Location
<b>Disruption to and relocation of utilities</b>	No known high risk utility conflicts within station site. Local, lower risk utilities would be relocated to suit station configuration.	No known high risk utility conflicts within station site. Local, lower risk utilities would be relocated to suit station configuration.	No known high risk utility conflicts within station site. Local, lower risk utilities would be relocated to suit station configuration.
<b>Disruption to Communities</b>			
<b>Residential Displacements</b>	None	None	16 parcels impacted (4.1 acres)
<b>Business Displacement (in excess of No Station)</b>	8 – commercial parcels impacted (6.8 acres) 22 – industrial parcels impacted (15.7 acres)	9 – industrial parcels impacted (18.2 acres)	17 – commercial parcels impacted (7.7 acres) 4 – industrial parcels impacted (13.4 acres) 2 – school parcels impacted (0.7 acres). Land take on the western boundaries of San Fernando Middle School and Kinder Care Learning Center are lower for this station alternative. Note: the No Station alignment has a marginal impact on a number of small parcels to the east of the alignment. The station alignment has no impact on the east side but a major impact on a smaller number of large parcels on the west of the alignment; hence the excess number of parcels affected by the station is negative.

**Table A-3: San Fernando Valley Subsection Evaluation Matrix**

Measurement Criteria	Optional Burbank Airport Station Location (Carried Forward)	Optional Branford Street Station Location (Withdrawn)	Optional San Fernando Station Location (Withdrawn)
<b>Proximity to Schools</b> (These schools are also within 1/4-mile of the alignment through the San Fernando Valley, regardless if the respective station option is present.)	Schools within 1/4-mile on either side of the construction footprint: 1	Schools within 1/4-mile on either side of the construction footprint: 0	Schools within 1/4-mile on either side of the construction footprint: 2
<b>Proximity to Landfills</b> (This landfill is also within 1/4-mile of the alignment through the San Fernando Valley, regardless if the respective station option is present.)	Landfills within 1/4-mile on either side of the construction footprint: 0	Landfills within 1/4-mile on either side of the construction footprint: 1	Landfills within 1/4-mile on either side of the construction footprint: 0
<b>Local Traffic Effects</b>	<p>All three station sites are projected to generate comparable boarding levels, with similar overall increases in traffic. Differences in effect on local traffic relate primarily on the areas roadway network's completeness and capacity.</p> <p>Arterials, including San Fernando Road and N. San Fernando Road, Cohasset Street, Glenoaks Blvd., N. Ontario Street, Buena Vista Street and Hollywood Way, would be affected by increased traffic generated by the station.</p> <p>Hollywood Way would be expected to see an increase in traffic between the station and Bob Hope Airport.</p> <p>The area around the airport currently experiences high levels of traffic congestion. It can be anticipated that the location of the HST station proximate to the airport will increase congestion levels. This impact is likely to be most pronounced on surface streets in the vicinity of the airport, and less pronounced on the I-5 and SR 134 freeways.</p>	<p>All three station sites are projected to generate comparable boarding levels, with similar overall increases in traffic. Differences in effect on local traffic relate primarily on the areas roadway network's completeness and capacity.</p> <p>The limited network of existing arterial streets would result in traffic increases that will likely be most pronounced on San Fernando Road. Other local roadways that are likely to be affected include Branford Street, Montague Street, Osborne Street, Laurel Canyon Blvd. and Glenoaks Blvd. The impacts on I-5, and its partial interchange at Branford St. and full interchange at Osborne St. will be affected, though the relative impacts will be less pronounced given current high traffic volumes.</p>	<p>All three station sites are projected to generate comparable boarding levels, with similar overall increases in traffic. Differences in effect on local traffic relate primarily on the areas roadway network's completeness and capacity.</p> <p>SR 118 and San Fernando Road, as important access routes to the station location would experience traffic increases. Traffic impacts are likely to be most pronounced along San Fernando Road since this arterial street would be the primary point of access to the station location. Traffic increases would also be experienced at the I-5 interchanges at Brand Blvd. and San Fernando Mission Blvd. though are likely to be relatively modest given current traffic volumes. Other arterials expected to experience increase demand include Truman Street, Maclay Street, Laurel Canyon Blvd., 4<sup>th</sup> Street, 5<sup>th</sup> Street and Glenoaks Blvd.</p>

Table A-3: San Fernando Valley Subsection Evaluation Matrix

Measurement Criteria	Optional Burbank Airport Station Location (Carried Forward)	Optional Branford Street Station Location (Withdrawn)	Optional San Fernando Station Location (Withdrawn)
<b>Environmental Resources</b>			
<b>Potential Section 4(f) and 6(f) Resources</b>	<p><b>Biological/Aquatic Resources</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.</p> <p><b>Cultural Resources within the Area of Potential Effects (APE)<sup>3,4</sup></b> No significant Archaeological Sites within archaeology study area (direct impact area only). No significant Historic Architectural Sites within historic architecture study area (direct and indirect impact areas)</p> <p><b>Parklands:</b> Section 4(f) impacts will be applicable to all parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds. There are 0 acres of parklands and 0 bike paths within 100 feet of the station, and 39.1 acres of parklands and 3 bike paths within a ½-mile of the station which may have a likelihood of an impact under Section 4(f). Final determination of national, state, or local significance, the nature of Section 4(f) impacts, as well as determining if any of these lands were acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.</p>	<p><b>Biological/Aquatic Resources</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.</p> <p><b>Cultural Resources within the APE</b> No significant Archaeological Sites within archaeology study area (direct impact area only). No significant Historic Architectural Sites within historic architecture study area (direct and indirect impact areas)</p> <p><b>Parklands:</b> Section 4(f) will be applicable to all parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds. There are 0 acres of parklands and 2 bike paths within 100 feet of the station, and 39.9 acres of parklands and 1 bike path within a ½-mile of the station which may have a likelihood of an impact under Section 4(f). Final determination of national, state, or local significance, the nature of Section 4(f) impacts, as well as determining if any of these lands were acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.</p>	<p><b>Biological/Aquatic Resources</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.</p> <p><b>Cultural Resources within the APE</b> 2 significant Archaeological Sites within archaeology study area (direct impact area only). 1 significant Historic Architectural Site within historic architecture study area (direct and indirect impact areas). Assigned 'Priority 3' Section 4(f) priority categorization number, due to location in area of indirect impacts.</p> <p><b>Parklands:</b> Section 4(f) will be applicable to all parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds. There are 0.2 acres of parklands and 1 bike path within 100 feet of the station, and 86 acres of parklands and 2 bike paths within ½-mile of the station which may have a likelihood of an impact under Section 4(f). Final determination of national, state, or local significance, the nature of Section 4(f) impacts, as well as determining if any of these lands were acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.</p>
<b>Biological/Aquatic Resources</b>	No known biologically sensitive habitats affected.	The Branford Street station may affect potential special aquatic resources areas that may exist in the quarry or ponds.	No known biologically sensitive habitats affected.

<sup>3</sup> Includes Significant Archaeological and Historic Architectural Sites. For the purposes of this AA, the term 'significant' refers to Archaeological and Architectural Historic Sites that are listed, determined eligible, or that appear eligible for listing in the NRHP and CRHR, to which Section 4(f) would be applicable.

<sup>4</sup> If Historic Architectural sites are present, a Section 4(f) priority categorization number is included. In April 2013, JV staff developed a memorandum for the PMT that categorized all significant Architectural Historic Resources into four groups, based on past eligibility determinations (NRHP, CRHR), current field survey data, and potential impact type (direct or indirect) from the construction and operation of the Project alignment. The Section 4(f) priority categorization identified resources that could benefit from more definite historical eligibility determinations, in order to potentially reduce the number of Section 4(f) resources, and included the following groups: **Priority 1:** Potentially Directly Affected NRHP/CRHR Eligible Properties; Not Previously Found NRHP/CRHR Eligible, Newly Identified, **Priority 2:** Potentially Directly Affected NRHP/CRHR Eligible Properties; Previously Found NRHP/CRHR Eligible, **Priority 3:** Potentially Indirectly Affected NRHP/CRHR Eligible Properties; Not Previously Found NRHP/CRHR Eligible, Newly Identified, **Priority 4:** Potentially Indirectly Affected NRHP/CRHR Eligible Properties; Previously Found NRHP/CRHR Eligible. Archaeological sites have not been assigned categorization numbers.

**Table A-3: San Fernando Valley Subsection Evaluation Matrix**

Measurement Criteria	Optional Burbank Airport Station Location (Carried Forward)	Optional Branford Street Station Location (Withdrawn)	Optional San Fernando Station Location (Withdrawn)
<b>Cultural Resources</b>	<p>1 previously recorded Archaeological Site within ½ mile of station location (CHRIS records search, June 2009). This cultural resource is located outside of the area of direct impact for the station construction, and therefore is not anticipated to be adversely affected by the project.</p> <p>No previously recorded Historic Architectural Sites within ½ mile of station location (CHRIS records search, June 2009)</p> <p>Insufficient information to definitively determine impacts to paleontological resources</p>	<p>1 previously recorded Archaeological Site within ½ mile of station location (CHRIS records search, June 2009). This cultural resource is located outside of the area of direct impact for the station construction, and therefore is not anticipated to be adversely affected by the project.</p> <p>No previously recorded Historic Architectural Sites within ½ mile of station location (CHRIS records search, June 2009)</p> <p>Insufficient information to definitively determine impacts to paleontological resources</p>	<p>9 previously recorded Archaeological Sites within ½ mile of station location (CHRIS records search, June 2009). These cultural resources are located outside of the area of direct impact for the station construction, and therefore are not anticipated to be adversely affected by the project.</p> <p>2 previously recorded Archaeological Sites within station footprint – directly impacted (CHRIS records search, June 2009).</p> <p>1 newly identified NRHP/CRHR eligible Historic Architectural Site (a Mid-Twentieth Century Commercial Storefront) within station footprint – directly impacted (Draft HPSR, December 2012).</p> <p>Insufficient information to definitively determine impacts to paleontological resources</p>
<b>Parklands</b>	<p><b>Within 100 Feet of the Station</b> 0.0 acres of parklands; 0 bike paths</p> <p><b>Within ½-mile of the Station</b> 39.1 acres of parklands (Lundigan Park - 1.4 acres, George Washington Elementary School - 7.6 acres, Monterey High School - 1.9 acres, Woodbury University - 28.2 acres); 3 bike paths</p>	<p><b>Within 100 Feet of the Station</b> 0.0 acres of parklands; 2 bike paths</p> <p><b>Within ½-mile of the Station</b> 39.9 acres of parklands (Roger Jessup Park - 12.4 acres, D. Gonzales Pacoima Recreation Center - 0.2 acres, Fernangeles Elementary School - 7.1 acres, and Sun Valley High School - 19.6 acres, Fernangeles Elementary School - 0.6 acres); 1 bike path</p>	<p><b>Within 100 Feet of the Station</b> 0.2 acres of parklands (San Fernando Middle School 0.2 acres); 1 bike path</p> <p><b>Within ½-mile of the Station</b> 86.0 acres of parklands (Carey Ranch Park - 7.3 acres, Las Palmas Park - 13.1 acres, Layne Park - 1.1 acres, Recreation Park - 9.0 acres, El Dorado Avenue Elementary School - 8.7 acres, Osceola Street Elementary School - 6.8 acres, Saint Ferdinand Elementary School - 5.3 acres, San Fernando Elementary School - 5.6 acres, San Fernando Middle School - 19.3 acres, Santa Rosa Catholic School - 0.5 acres, and Telfair Avenue Elementary School - 9.3 acres); 2 bike paths</p>
<b>Agricultural Lands</b>	No agricultural lands within or adjacent to station footprint.	No agricultural lands within or adjacent to station footprint.	No agricultural lands within or adjacent to station footprint.
<b>Demographics and Socioeconomic Composition</b>	<p>The majority of the station buffer area contains portions of Census tracts with no known or project-designated* communities of Environmental Justice concern.</p> <p>A small portion of the station buffer area contains a portion of a Census tract whose population is over 50% minority.</p> <p>A small portion of the station buffer area contains portions of Census tracts with a high percentage of population living below poverty level relative to the County average.</p> <p>* Known communities are those that have had historical presence in the area and which may or may not conform to the boundaries of a Census tract. Project-designated communities are those Census tracts that contain minority, low-income, elderly, and/or LEP populations at or above a particular threshold, defined as 50% (minority) or County average (low-income, elderly, and LEP).</p>	<p>The entire station buffer area contains portions of Census tracts whose population is over 50% minority.</p> <p>Half of the station buffer area contains portions of Census tracts with a high percentage of population living in below poverty level relative to the County average.</p> <p>A small portion of the station buffer area contains portions of Census tracts with <u>both</u> a high percentage of population living in below poverty level <u>and</u> a large LEP population relative to the County average.</p>	<p>The majority of the station buffer area contains a portion of a Census tract whose population is over 50% minority.</p> <p>The majority of the station buffer area contains portions of Census tracts with a high percentage of population living below poverty level relative to the County average.</p> <p>A small portion of the station buffer area contains portions of Census tracts with no known or project-designated* communities of Environmental Justice concern.</p> <p>* Known communities are those that have had historical presence in the area and which may or may not conform to the boundaries of a Census tract. Project-designated communities are those Census tracts that contain minority, low-income, elderly, and/or LEP populations at or above a particular threshold, defined as 50% (minority) or County average (low-income, elderly, and LEP).</p>

**Table A-3: San Fernando Valley Subsection Evaluation Matrix**

Measurement Criteria	Optional Burbank Airport Station Location (Carried Forward)	Optional Branford Street Station Location (Withdrawn)	Optional San Fernando Station Location (Withdrawn)
<b>Community Resources</b>	<p>The station buffer area contains 1 airport, 4 churches, 1 fire station, 2 parks/recreational uses, and 1 school.</p> <ul style="list-style-type: none"> <li>• Bob Hope Airport (920 feet)</li> <li>• Armenian Church (1,240 feet)</li> <li>• El Sembrador Church (within the proposed right-of-way)</li> <li>• Luther Memorial Lutheran Church (181 feet)</li> <li>• Bethany Korean Church (275 feet)</li> <li>• Burbank Fire Department #13 (983 feet)</li> <li>• 2 existing bike trails (within the proposed right-of-way)</li> <li>• Woodbury University (2,071 feet)</li> </ul> <p>Note: Distances in the parenthesis are a distance from a site to the nearest proposed right-of-way</p>	<p>The station buffer area contains 1 hospital and 2 parks/recreational uses.</p> <ul style="list-style-type: none"> <li>• Pacifica Hospital of The Valley (154 feet)</li> <li>• 1 existing bike trail (184 feet)</li> <li>• 1 existing bike trail (within the proposed right-of-way)</li> </ul> <p>Note: Distances in the parenthesis are a distance from a site to the nearest proposed right-of-way</p>	<p>The station buffer area contains 4 churches, 1 cultural/historical site, 3 government facilities, 1 library, 9 parks/recreational uses, 1 police station, 3 schools, and 1 transit station.</p> <ul style="list-style-type: none"> <li>• Calvary United Pentecostal Church (540 feet)</li> <li>• First Baptist Church (340 feet)</li> <li>• Lighthouse Christian Center (43 feet)</li> <li>• St Ferdinand's Catholic Church (598 feet)</li> <li>• Lopez Adobe (416 feet)</li> <li>• City of San Fernando City Hall (208 feet)</li> <li>• City of San Fernando Courthouse (100 feet)</li> <li>• San Fernando Post Office (560 feet)</li> <li>• San Fernando Public Library (238 feet)</li> <li>• 1 existing bike trail (634 feet)</li> <li>• 1 existing bike trail (319 feet)</li> <li>• 1 existing bike trail (294 feet)</li> <li>• 1 existing bike trail (298 feet)</li> <li>• 1 existing bike trail (11 feet)</li> <li>• 2 existing bike trails (within the proposed right-of-way)</li> <li>• Las Palmas Park (1,200 feet)</li> <li>• Layne Park (270 feet)</li> <li>• San Fernando Police Department (Headquarter) (70 feet)</li> <li>• Saint Ferdinand Elementary School (747 feet)</li> <li>• San Fernando Middle School (438 feet)</li> <li>• Santa Rosa De Lima Elementary School (1,529 feet)</li> <li>• Metrolink-Sylmar/San Fernando Station (within the proposed right-of-way)</li> </ul> <p>Note: Distances in the parenthesis are a distance from a site to the nearest proposed right-of-way</p>
<b>Displacement of Community Resources</b>	<p>The following community resources are located within the known right-of-way and would be potentially displaced.</p> <p>1 church (El Sembrador Church) 2 existing parks/recreational uses</p>	<p>The following community resource is located within the known right-of-way and would be potentially displaced.</p> <p>1 existing parks/recreational uses</p>	<p>The following community resources are located within the known right-of-way and would be potentially displaced.</p> <p>2 existing parks/recreational uses</p>
<b>Environmental Justice</b>	<p>The Burbank Airport Station Option has the potential to have minimal direct and indirect impacts to community resources that are important to communities of EJ concern, mainly because the majority of the station buffer area does not contain communities of EJ concern. Where there is potential displacement of community resources they are not located in communities of EJ concern. Furthermore, the proposed station would be located at the edge of established communities and is less likely to have community cohesion impacts.</p>	<p>The Branford Station Option has the potential to have moderate to minimal direct and indirect impacts to community resources that are important to communities of EJ concern. Potential displacement of these community resources would be limited. Furthermore, the proposed station would be located at the edge of established communities and is less likely to have community cohesion impacts.</p>	<p>The San Fernando Station Option has the potential to have substantial direct and indirect impacts to community resources that are important to communities of EJ concern, such as parks, churches, schools, and historic properties. Although potential displacement of these community resources would be limited, the San Fernando Station Option would be located at the center of the City of San Fernando and may cause substantial displacement of commercial and some residential properties. This would significantly reduce the employment base, tax revenue sources, and businesses that cater to EJ communities. Altogether, the effects related to community cohesion may be disproportionate compared to stations located at the periphery of communities.</p>

**Table A-3: San Fernando Valley Subsection Evaluation Matrix**

Measurement Criteria	Optional Burbank Airport Station Location (Carried Forward)	Optional Branford Street Station Location (Withdrawn)	Optional San Fernando Station Location (Withdrawn)
<b>Noise and Vibration</b>	<b>Within 2,000 Feet</b> 126 residences 1 hospital	<b>Within 2,000 Feet</b> 8 residences	<b>Within 2,000 Feet</b> 704 residences 5 churches 1 church and school 2 schools 1 hospital 3 institutional 2 parks
<b>Change in Visual and Scenic Resources</b>	This station alternative is on low embankment in an area immediately surrounded by commercial and industrial uses and infrastructure. Outside of adjacent parcels, this station is located close proximity to sensitive receptor locations such as residential and recreational uses. Therefore, this station is expected to have a potential moderate impact.	This station alternative is on low embankment in an area immediately surrounded by commercial and industrial uses and infrastructure. Additionally, this station is located in close proximity to sensitive receptor locations such as residential, recreational, and designated open space uses and would have a potential moderate impact.	This station alternative is on low embankment and located in close proximity to sensitive receptor locations such as public facilities and residential uses, and would have a potential moderate to high impact.
<b>Geological and Soil Constraints</b>	The station footprint is located outside known fault rupture and liquefaction hazard zones.  The station footprint is not located within a half-mile radius of a city of Los Angeles Methane Hazard Zone.  In Hansen Dam Flood Inundation Zone.	The entire station footprint is located inside the fault-rupture hazard zone for the Verdugo Fault, as determined for this project. The Verdugo fault is considered capable of fault rupture, but with a low probability of rupture within the design life of the system. The Verdugo fault does not have a defined Alquist-Priolo earthquake fault zone.  The station footprint is located outside known liquefaction hazard zones.  A majority of the station footprint is located within a half-mile radius of a city of Los Angeles Methane Hazard Zone.  In Pacoima and Hansen Dam Flood Inundation Zones.	0.33 miles of the station footprint is located within the Alquist-Priolo earthquake fault zone for the San Fernando fault. The fault is active and will be subject to further study. Ground rupture is possible and weaker bearing soils may also be present.  0.2 miles of the northern end of the station footprint is located within a liquefaction hazard zone.  The southern end of the station footprint is located within a half-mile radius of a city of Los Angeles Methane Hazard Zone.  In Pacoima Dam Flood Inundation Zone.
<b>Avoidance of Hazardous Materials</b>	Construction may encounter contaminated groundwater if it extends 30 feet below ground level. The station is located within the San Fernando Valley Superfund Area 1, which has groundwater contaminated by volatile organic compounds.  Some risk of encountering aerially deposited lead and other metals in soil.  Demolition of existing structures may encounter asbestos, lead-paint, and other hazardous materials.	Construction may encounter contaminated groundwater if it extends 30 feet below ground level. The station is located within the San Fernando Valley Superfund Area 1, which has groundwater contaminated by volatile organic compounds.  Located within the former Branford Landfill which has reported methane issues.  Some risk of encountering aerially deposited lead and other metals in soil.  Demolition of existing structures may encounter asbestos, lead-paint, and other hazardous materials.	It is expected that no hazardous materials will be encountered in the soil and/or groundwater.  Some risk of encountering aerially deposited lead and other metals in soil.  Demolition of existing structures may encounter asbestos, lead-paint, and other hazardous materials.
<b>Agency and Public Input</b>	<b>Agency and Public Input</b>		
<b>Agency and Public Input</b>	Metro, the City of Burbank, and the Bob Hope Airport Authority requested a study of a possible station option near the airport. The City does not want an HST station to disrupt their community via right-of-way encroachment into neighborhoods, nor do they want the downtown Metrolink station moved. The City stated that the HST station should minimize cut-through traffic between SR 134 and I-5. All the above parties are supportive of the proposed station at the Burbank Airport.  There is support in the San Fernando Valley for a one station concept providing it has good connectivity for public transit and road access.	The Mayor's office, Metro, Councilmember Alarcon, and the City of Los Angeles prefer a station option in the City of LA. The Mayor's office has expressed concern over a Branford location as there is a planned and funded "live/work" development, creating 400 jobs, in the vicinity of the proposed station site. The Authority has held an initial meeting with the Mayor's office and developer to review the development possibilities that may be available at this site, and how they may co-locate with a HST station. There is concern about access and local connectivity to the station option.  There is support in the San Fernando Valley for a one station concept providing it has good connectivity for public transit and road access.	The City of San Fernando is supportive of CHSTP, acknowledges the impact that the right-of-way required would have upon their City, and thereby supports a station location in San Fernando, believing the impact to be positive to the community in allowing for growth and TOD.  The City of Los Angeles is concerned that there is not great access to this station.  There is support in the San Fernando Valley for a one station concept providing it has good connectivity for public transit and road access.

Table A-4: Los Angeles Subsection Evaluation Matrix

Measurement Criteria	Alternative LAPT1 Tunnel from At-Grade or Elevated LAUS (Carried Forward)	Alternative LAPT3 Tunnel from At-Grade or Elevated LAUS (Carried Forward)	Surface Alternative (formerly LAP1C); Viaduct from At-Grade or Elevated LAUS (Carried Forward)
<b>Design Objectives</b>			
Journey time	2.8 minutes 3.89 miles	3.2 minutes 3.97 miles	5.4 minutes 4.41 miles
Intermodal Connections	Connections with Amtrak, Metrolink, Metro rail and bus at Los Angeles Union Station	Connections with Amtrak, Metrolink, Metro rail and bus at Los Angeles Union Station	Connections with Amtrak, Metrolink, Metro rail and bus at Los Angeles Union Station
Operating Costs	Higher because of tunnel ventilation	Higher because of tunnel ventilation	Lower
Capital Cost Factor	2.0	1.8	1.0
<b>Land Use</b>			
Transit Oriented Development (TOD) Potential	Currently, the Los Angeles Union Station is in operation and serves as a transfer location terminus for metro rail transportation through the Los Angeles Basin. The TOD potential is high as the terminus is located in dense industrial, public, and commercial uses.	Similar to LAPT1.	Similar to LAPT1.
Consistency with Other Planning	<p><b>All alternatives would be consistent with:</b></p> <ul style="list-style-type: none"> <li>The Los Angeles Union Station Master Plan being prepared by Metro: Both the HSR and the LAUS Master Plan are maintaining flexibility in order for LAUS to accommodate the anticipated future arrival of the HSR.</li> <li>Land uses in the Los Angeles City Community Plans: Central City, Silver Lake-Echo Park-Elysian Valley, Northeast Los Angeles, and Boyle Heights.</li> <li>The City of Los Angeles Central City Community Plan objectives are to: keep downtown as the focal point of the regional mobility system accommodating internal access and mobility needs. Encourage rail connections that will serve the downtown traveler, and improve freeway movement and capacity adjacent to the Downtown area.</li> <li>The City of Los Angeles Central City North Community Plan objectives are to: Develop a public transit system that improves mobility with convenient alternatives to automobile travel, encourage alternative modes of transportation to the use of single occupant vehicles (SOV) in order to reduce vehicular trips, and encourage the expansion of transit programs aimed at enhancing the mobility of senior citizens, disabled persons, and the transit-dependent population.</li> <li>The City of Los Angeles Boyle Heights Community Plan objectives are to: Maximize the effectiveness of public transportation to meet the travel needs of transit-dependent residents, encourage alternate modes of travel and provide an integrated transport system, and a transportation system that is coordinated with land uses and which can accommodate the total travel needs of the Community.</li> <li>City of Los Angeles – Northeast Los Angeles Community Planning Area objectives are to: Develop an intermodal mass transportation plan to implement linkages to future mass transit service.</li> <li>City of Los Angeles – Los Angeles State Historic Park General Plan objectives are to: Explore opportunities to link pedestrian and cycling trails within the Park with neighborhood and regional transportation systems, including regional trails.</li> </ul> <p><b>All alternatives would be inconsistent with:</b></p> <p>City of Los Angeles – Northeast Los Angeles Community Planning Area: Requires that any proposed development be designed to enhance and be compatible with adjacent development. However, the HSR project team will work with the City and the stakeholders during the project development phase to minimize any incompatibilities with the adjacent developments.</p>		
Consistency with Other Planning (cont'd)	<p>Alternative LAPT1 <b>would be consistent</b> with the land uses in the Los Angeles City Community Plans: Central City North</p> <p>This alternative <b>would be compatible</b> with planned developments under the following plans:</p> <ul style="list-style-type: none"> <li>Los Angeles State Historic Park General Plan, although a tunnel portal will be placed near the east end of the park, resulting in temporary construction impacts.</li> <li>CRA/LA Clean Tech Corridor Plan</li> </ul> <p>This alternative <b>would not be compatible</b> with planned developments under the following plans:</p> <ul style="list-style-type: none"> <li>Los Angeles River Revitalization Master Plan,</li> <li>Cornfield Arroyo Seco Specific Plan</li> </ul>	<p>Alternative LAPT3 <b>would be consistent</b> with the land uses in the Los Angeles City Community Plans: Central City North.</p> <p>This alternative <b>would be compatible</b> with planned developments under the following plans:</p> <ul style="list-style-type: none"> <li>Los Angeles State Historic Park General Plan, although a tunnel portal will be placed near the east end of the park, resulting in temporary construction impacts.</li> <li>CRA/LA Clean Tech Corridor Plan</li> </ul> <p>This alternative <b>would not be compatible</b> with planned developments under the following plans:</p> <ul style="list-style-type: none"> <li>Los Angeles River Revitalization Master Plan</li> <li>Cornfield Arroyo Seco Specific Plan</li> </ul>	<p>The Surface Alternative <b>would not be consistent</b> with the land uses in the Los Angeles City Central City North Community Plan as the alignment will travel on a high (40'-50') viaduct very close to residential land uses.</p> <p>This alternative <b>would be compatible</b> with planned developments under the following plans:</p> <ul style="list-style-type: none"> <li>Los Angeles State Historic Park General Plan</li> <li>CRA/LA Clean Tech Corridor Plan</li> </ul> <p>This alternative <b>would not be compatible</b> with planned developments under the following plans:</p> <ul style="list-style-type: none"> <li>Los Angeles River Revitalization Master Plan</li> <li>Cornfield Arroyo Seco Specific Plan</li> </ul>
<b>Constructability</b>			
Constructability	Bored tunnel beneath park, houses and Los Angeles River will require easements. Cut and cover through Spring Street and temporary bridges will be needed to maintain Spring Street traffic during construction.	Similar to LAPT1.	Constructing the viaduct crossing over the Los Angeles River and the Metrolink tracks on a skew would be complex.

**Table A-4: Los Angeles Subsection Evaluation Matrix**

Measurement Criteria	Alternative LAPT1 Tunnel from At-Grade or Elevated LAUS (Carried Forward)	Alternative LAPT3 Tunnel from At-Grade or Elevated LAUS (Carried Forward)	Surface Alternative (formerly LAP1C); Viaduct from At-Grade or Elevated LAUS (Carried Forward)
<b>Disruption to Existing Railroad</b>	Interface with existing railroads is limited to a small section immediately north of LAUS. Gold Line on viaduct emerging from LAUS would need to be diverted	Interface with existing railroads is limited to a small section immediately north of LAUS. Phasing of construction will be complex for the elevated LAUS option. Gold Line on viaduct emerging from LAUS would need to be diverted for the at-grade station option.	Interface with existing railroads is from immediately north of LAUS, and along the Los Angeles River from the alignment's crossing of the LA River to the SR 2. Phasing of construction will be complex for the elevated LAUS option. Gold Line on viaduct emerging from LAUS would need to be diverted for the at-grade station option.
<b>Disruption to and Relocation of Utilities</b>	Most of this segment is in tunnel, thereby minimizing impact on utilities, except in trench segments transitioning to tunnel.  High Risk Utility conflicts include: <ul style="list-style-type: none"><li>• 10' x 12' Storm drain crossing</li><li>• 12' Arch storm drain crossing</li><li>• 10' x 10' Storm drain crossing</li><li>• 20" Oil line relocation</li><li>• 2 – 7.5' x 10.5' Storm drain relocations</li><li>• Elysian Reservoir crossing</li></ul> Storm and sewer crossings in trench areas may require siphons or pump stations.	Similar to LAPT1.	Most of this segment is elevated. The aerial foundation pile caps may have an adverse impact on local, lower risk utilities.  High Risk Utility conflicts include: <ul style="list-style-type: none"><li>• 20" Oil line relocation</li><li>• 2 – 2 x 230 KV Electric relocations (overhead)</li></ul>
<b>Disruption to Communities</b>			
<b>Displacements</b>			
<b>Residential Displacements</b>	None	None	None
<b>Business Displacement</b>	17 – industrial parcels impacted 1 – nonprofit parcel impacted (Post Office Terminal Annex)	16 – industrial parcels impacted 1 – nonprofit parcel impacted (Post Office Terminal Annex)	2 – commercial parcels impacted 36 – industrial parcels impacted 2 – nonprofit parcels impacted (Post Office Terminal Annex and Lincoln Heights Jail)
<b>Proximity to Schools</b>	Schools within 1/4-mile on either side of the construction footprint: 10	Schools within 1/4-mile on either side of the construction footprint: 10	Schools within 1/4-mile on either side of the construction footprint: 9
<b>Proximity to Landfills</b>	Landfills within 1/4-mile on either side of the construction footprint: 0	Landfills within 1/4-mile on either side of the construction footprint: 0	Landfills within 1/4-mile on either side of the construction footprint: 0
<b>Local Traffic Effects near stations</b>	See station evaluation (Los Angeles to Anaheim AA)	See station evaluation (Los Angeles to Anaheim AA)	See station evaluation (Los Angeles to Anaheim AA)
<b>Highway Grade Separations and Closures</b>	1 grade separation (W. Ann Street), 5 closures (local roads)	1 grade separation (W. Ann Street), 2 closures (local roads), plus bridges over trench	1 grade separation (Metro Central Maintenance Facility road)

Table A-4: Los Angeles Subsection Evaluation Matrix

Measurement Criteria	Alternative LAPT1 Tunnel from At-Grade or Elevated LAUS (Carried Forward)	Alternative LAPT3 Tunnel from At-Grade or Elevated LAUS (Carried Forward)	Surface Alternative (formerly LAP1C); Viaduct from At-Grade or Elevated LAUS (Carried Forward)
<b>Environmental Resources</b>			
<b>Potential Section 4(f) and 6(f) Resources</b>	<p><b>Biological/Aquatic Resources:</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.</p> <p><b>Cultural Resources within the APE:</b><sup>5,6</sup> 1 significant Archaeological Site within archaeology study area (direct impact area only). 3 significant Historic Architectural Sites within historic architectural study area (direct and indirect impact areas). One assigned 'Priority 2' Section 4(f) priority categorization number, and two assigned 'Priority 3' Section 4(f) priority categorization numbers, due to site location in area of direct and indirect impacts.</p> <p><b>Parklands:</b> Section 4(f) will be applicable to all parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds. There are likely to be impacts from passing close to the Los Angeles State Historic Park due to placement and construction of tunnel portals, and to 2 parks and recreational uses adjacent to or intersecting the alignment. Final determination of national, state, or local significance, the nature of Section 4(f) impacts, as well as determining if any of these lands were acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.</p>	<p><b>Biological/Aquatic Resources:</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.</p> <p><b>Cultural Resources within the APE:</b> 1 significant Archaeological Site within archaeology study area (direct impact area only). 5 significant Historic Architectural Sites within historic architectural study area (direct and indirect impact areas). Two assigned 'Priority 1' Section 4(f) priority categorization numbers, and four assigned 'Priority 2' Section 4(f) priority categorization numbers, due to site location in area of direct impacts.</p> <p><b>Parklands:</b> Section 4(f) will be applicable to all parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds. There are likely to be impacts from passing close to the Los Angeles State Historic Park due to placement and construction of tunnel portals, and to 2 parks and recreational uses adjacent to or intersecting the alignment. Final determination of national, state, or local significance, the nature of Section 4(f) impacts, as well as determining if any of these lands were acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.</p>	<p><b>Biological/Aquatic Resources:</b> There are no known officially designated wildlife or waterfowl refuges with the study area; therefore, no impacts related to Section 4(f) are anticipated at this time. Final determination of Section 4(f) impacts will require outreach to local jurisdictions and conservation authorities within the corridor to determine the presence or absence of these resources. Further analysis and final determination of Section 4(f) impacts will occur in future environmental documentation.</p> <p><b>Cultural Resources within the APE:</b> 1 significant Archaeological Site within archaeology study area (direct impact area only). 6 significant Historic Architectural Sites within historic architectural study area (direct and indirect impact areas). Two assigned 'Priority 1' Section 4(f) priority categorization numbers, and four assigned 'Priority 2' Section 4(f) priority categorization numbers, due to site location in area of direct impacts.</p> <p><b>Parklands:</b> Section 4(f) will be applicable to all parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public, while Section 6(f) will be applicable to lands acquired with Land and Water Conservation Act funds. There are likely to be impacts from passing close to the Los Angeles Youth Athletic Club and Downey Recreation Center, and the future Albion Dairy River Park on viaduct; likely impacts from passing close to Cypress Recreation Center at-grade; likely impacts to the Los Angeles State Historic Park and Elysian Park; and likely impacts to bike trails along Los Angeles River. There are 4 parks and recreational uses adjacent to or intersecting the alignment. Final determination of national, state, or local significance, the nature of Section 4(f) impacts, as well as determining if any of these lands were acquired with Land and Water Conservation Act funds will be determined in future environmental documentation.</p>
<b>Biological/Aquatic Resources</b>	<p>The HST tunnel would be located below flood level of Los Angeles River, flooding risks would be avoided by flood-proofing techniques designed to protect ventilation and portal structures.</p> <p>There are no sensitive habitat areas within the LAUS area.</p>	<p>The HST tunnel would be located below flood level of Los Angeles River, flooding risks would be avoided by flood-proofing techniques designed to protect ventilation and portal structures.</p> <p>There are no sensitive habitat areas within the LAUS area.</p>	<p>The HST Station and approaches would be at grade or elevated above the Los Angeles River floodplain.</p> <p>There are no sensitive habitat areas within the LAUS area.</p>

<sup>5</sup> Includes Significant Archaeological and Historic Architectural Sites. For the purposes of this AA, the term 'significant' refers to Archaeological and Architectural Historic Sites that are listed, determined eligible, or that appear eligible for listing in the NRHP and CRHR, to which Section 4(f) would be applicable.

<sup>6</sup> If Historic Architectural sites are present, a Section 4(f) priority categorization number is included. In April 2013, JV staff developed a memorandum for the PMT that categorized all significant Architectural Historic Resources into four groups, based on past eligibility determinations (NRHP, CRHR), current field survey data, and potential impact type (direct or indirect) from the construction and operation of the Project alignment. The Section 4(f) priority categorization identified resources that could benefit from more definite historical eligibility determinations, in order to potentially reduce the number of Section 4(f) resources, and included the following groups: **Priority 1:** Potentially Directly Affected NRHP/CRHR Eligible Properties; Not Previously Found NRHP/CRHR Eligible, Newly Identified, **Priority 2:** Potentially Directly Affected NRHP/CRHR Eligible Properties; Previously Found NRHP/CRHR Eligible, **Priority 3:** Potentially Indirectly Affected NRHP/CRHR Eligible Properties; Not Previously Found NRHP/CRHR Eligible, Newly Identified, **Priority 4:** Potentially Indirectly Affected NRHP/CRHR Eligible Properties; Previously Found NRHP/CRHR Eligible. Archaeological sites have not been assigned categorization numbers.

**Table A-4: Los Angeles Subsection Evaluation Matrix**

Measurement Criteria	Alternative LAPT1 Tunnel from At-Grade or Elevated LAUS (Carried Forward)	Alternative LAPT3 Tunnel from At-Grade or Elevated LAUS (Carried Forward)	Surface Alternative (formerly LAP1C); Viaduct from At-Grade or Elevated LAUS (Carried Forward)
<b>Cultural Resources</b>	<p>27 previously recorded Archaeological Sites within ½ mile of station location (CHRIS records search, June 2009). These cultural resources are located outside of the area of direct impact for the alignment, and therefore are not anticipated to be adversely affected by the alignment.</p> <p>1 previously recorded Archaeological Site within alignment footprint – directly impacted (CHRIS records search, June 2009).</p> <p>66 previously recorded Historic Architectural Sites within ½ mile of alignment (CHRIS records search, June 2009).</p> <p>1 previously recorded Historic Architectural Site within alignment footprint – directly impacted (CHRIS records search, June 2009).</p> <p>2 newly identified NRHP/CRHR eligible Historic Architectural Sites within alignment footprint – directly impacted (Draft HPSR, December 2012).</p> <p>Insufficient information to definitively determine impacts to paleontological resources.</p>	<p>27 previously recorded Archaeological Sites within ½ mile of station location (CHRIS records search, June 2009). These cultural resources are located outside of the area of direct impact for the alignment, and therefore are not anticipated to be adversely affected by the alignment.</p> <p>1 previously recorded Archaeological Site within alignment footprint – directly impacted (CHRIS records search, June 2009).</p> <p>67 previously recorded Historic Architectural Sites within ½ mile of alignment (CHRIS records search, June 2009).</p> <p>1 previously recorded Historic Architectural Site within alignment footprint – directly impacted (CHRIS records search, June 2009).</p> <p>4 newly identified NRHP/CRHR eligible Historic Architectural Sites within alignment footprint – directly impacted (Draft HPSR, December 2012).</p> <p>Insufficient information to definitively determine impacts to paleontological resources</p>	<p>27 previously recorded Archaeological Sites within ½ mile of station location (CHRIS records search, June 2009). These cultural resources are located outside of the area of direct impact for the alignment, and therefore are not anticipated to be adversely affected by the alignment.</p> <p>1 previously recorded Archaeological Site within alignment footprint – directly impacted (CHRIS records search, June 2009).</p> <p>73 previously recorded Historic Architectural Sites within ½ mile of alignment (CHRIS records search, June 2009).</p> <p>5 previously recorded Historic Architectural Sites within alignment footprint – directly impacted (CHRIS records search, June 2009).</p> <p>1 newly identified NRHP/CRHR eligible Historic Architectural Site within alignment footprint – directly impacted (Draft HPSR, December 2012).</p> <p>Insufficient information to definitively determine impacts to paleontological resources.</p>
<b>Cultural Resources (cont'd)</b>	<p><b>Common to all alternatives</b></p> <p>The proposed route has the potential to indirectly impact portions of historic-period properties as a result of noise and vibration from construction activities, and from operation of the high-speed train, as well as changes to historic integrity aspects of feeling and setting.</p> <p>Impacts to previously recorded archaeological resources have the potential to occur as a result of direct impacts, such as removal or modification of the intact resource to accommodate the proposed track. No impacts to human remains are anticipated.</p>		
<b>Cultural Resources (cont'd)</b>	<p><b>Common to all tunnel alternatives</b></p> <p>Impacts to buried archaeological resources have the potential to occur as a result of tunneling or trenching.</p> <p>Impacts to paleontological resources have the potential to occur as a result of deep excavation to accommodate proposed tunnels along the project right-of-way. Deep excavation is likely to encounter the Monterey Formation, which is a fossil-bearing stratum.</p>		
<b>Parklands</b>	<p>Impacts from passing close to Los Angeles State Historic Park due to placement and construction of tunnel portals.</p> <p>2 parks and recreational uses adjacent to or intersecting the alignment.</p>	<p>Impacts from passing close to Los Angeles State Historic Park due to placement and construction of tunnel portals.</p> <p>2 parks and recreational uses adjacent to or intersecting the alignment</p>	<p>Likely direct impacts from passing close to Los Angeles Youth Athletic Club and Downey Recreation Center, and the future Albion Dairy River Park on viaduct. Likely impacts from passing close to Cypress Recreation Center at-grade. Likely indirect impacts (visual) to Los Angeles State Historic Park and Elysian Park. Likely impacts to bike trails along Los Angeles River.</p> <p>Four parks and recreational uses adjacent to or intersecting the alignment.</p>
<b>Agricultural Lands</b>	No impact to agricultural lands.	No impact to agricultural lands.	No impact to agricultural lands.
<b>Noise and Vibration</b>	<p>Primary noise and vibration impacts would be to Los Angeles State Historic Park and nearby noise-sensitive land uses during construction activities, but lower impacts after completion.</p> <p><u>Sensitive receptors within ½-mile:</u> 3,196 residential parcels 19 churches 5 hospitals 5 parks</p>	<p>Primary noise and vibration impacts would be to Los Angeles State Historic Park and nearby noise-sensitive land uses during construction activities, but lower impacts after completion.</p> <p><u>Sensitive receptors within ½-mile:</u> 3,206 residential parcels 20 churches 6 hospitals 6 parks</p>	<p>This alignment would generate considerable noise impacts passing immediately north of the William Mead Housing Project and the Anne Street School on Main Street. It would then run at-grade or on elevated viaduct near several noise sensitive properties (homes, churches, parklands) on the east side of the Los Angeles River (south of SR-110) and along San Fernando Road (North of SR-110). This increased exposure to sensitive receivers would result in the highest number of potential operational noise and vibration impacts.</p> <p><u>Sensitive receptors within ½-mile:</u> 5,903 residential parcels 32 churches 7 hospitals 11 parks</p>

**Table A-4: Los Angeles Subsection Evaluation Matrix**

Measurement Criteria	Alternative LAPT1 Tunnel from At-Grade or Elevated LAUS (Carried Forward)	Alternative LAPT3 Tunnel from At-Grade or Elevated LAUS (Carried Forward)	Surface Alternative (formerly LAP1C); Viaduct from At-Grade or Elevated LAUS (Carried Forward)
<b>Change in Visual and Scenic Resources</b>	This alternative would have a low impact compared to the other alternatives for the following reasons: <ul style="list-style-type: none"><li>• It goes into trench and then tunnel immediately north of LAUS</li></ul>	This alternative would have a low impact compared to the other alternatives for the following reasons: <ul style="list-style-type: none"><li>• It goes into trench and then tunnel north of LAUS</li></ul>	The Surface Alternative would have a high impact for the following reasons: <ul style="list-style-type: none"><li>• A larger portion of the alignment is above ground than for the tunnel alternatives; therefore, the visual impact would be adverse.</li><li>• This alternative reaches heights up to 60 feet on the viaduct as the alignment crosses over the Los Angeles River and reaches heights up to 70 feet as it crosses over three historically significant bridges – the Main Street Bridge, North Spring Bridge, and North Broadway Viaduct.</li><li>• The viaduct option reaches heights of up to 80 feet as it crosses over Young Nake Presbyterian Church, Downey Recreation Center, and a historic jail located along the east bank of the Los Angeles River south of the Pasadena Freeway.</li><li>• It is on a high viaduct in close proximity to multifamily dwelling units just north of LAUS.</li></ul>
<b>Geological and Soil Constraints</b>	Alternative is located outside of known fault rupture zones. 0.75 miles of the alternative's non-tunnel reaches are located within liquefaction hazard zone, with an additional 0.2 miles of cut and cover tunnel. Bored tunnel reaches are expected to be either in bedrock or below the liquefiable soil zone. 2.3 miles of the alternative are within a half-mile radius of city of Los Angeles Methane Zones. 0.75 miles are in the Hansen Dam Flood Inundation Zone.	Alternative is located outside of known fault rupture zones. 1.2 miles of the alternative's non-tunnel or cut and cover tunnel reaches are located within liquefaction hazard zone. Bored tunnel reaches are expected to be either in bedrock or below the liquefiable soil zone. 2.4 miles of the alternative are within a half-mile radius of city of Los Angeles Methane Zones. 1 mile is in the Hansen Dam Flood Inundation Zone.	Alternative is located outside known fault rupture zones. 3.1 miles of the alternative are located within liquefaction hazard zone. 2.8 miles of the alternative are within a half-mile radius of city of Los Angeles Methane Zones. 2.7 miles are in the Hansen Dam Flood Inundation Zone.
<b>Avoidance of Hazardous Materials</b>	Increased risk of encountering hazardous materials due to substantially greater volume of soil excavation. Some risk of encountering aerially deposited lead and other metals in surface soil. Construction may encounter contaminated groundwater if it extends below grade. The area north of I-5 is located within the San Fernando Valley Superfund Area 3, which has groundwater contaminated by volatile organic compounds.	Increased risk of encountering hazardous materials due to substantially greater volume of soil excavation. Some risk of encountering aerially deposited lead and other metals in surface soil. Construction may encounter contaminated groundwater if it extends below grade. The area north of I-5 is located within the San Fernando Valley Superfund Area 3, which has groundwater contaminated by volatile organic compounds.	Moderate risk of encountering hazardous materials in excavating soil for pier foundations due to the numerous regulatory database sites in the vicinity. Some risk of encountering aerially deposited lead and other metals in soil. Demolition of existing structures may encounter asbestos, lead-paint, and other hazardous materials. Construction may encounter contaminated groundwater if it extends below grade. The area north of I-5 is located within the San Fernando Valley Superfund Area 3, which has groundwater contaminated by volatile organic compounds.
<b>Agency and Public Input</b>	<b>Agency and Public Input</b> The City of LA, Mayor's office, and Metro prefer this alignment and State Parks have no objection to the revised alignment which will not impact the archeological artifacts beneath the site.	State Parks have no objection to the revised alignment. Potential conflict with the City of Los Angeles General Plan for the redevelopment between Spring Street, Main Street, Vignes and the Los Angeles River will need to be mitigated by coordination of HST proposals with their redevelopment plans.	This alignment would preserve the San Antonio Winery, but conflicts with the Downey Recreation Center, proposed park at the Dairy site, old city historic jail, and limits accessibility to the Los Angeles River from the east bank. The 60 foot viaduct will create visual impacts to all of the communities north of LAUS to I-5. Potential conflict with the City of Los Angeles General Plan for the redevelopment between Spring Street, Main Street, Vignes and the Los Angeles River

## APPENDIX B - OUTREACH MEETINGS

### Category Key:

**AS** = Agency Staff; **EL** = Elected; **GIO** = General Interest Organization; **M** = Media; **P** = Public; **PIM** = Public Information Meeting; **PWG** = Policy Working Group; **SM** = Scoping Meeting; **STO** = Stakeholder Organization; **TAG/TWG** = Technical Assessment/Working Group

No.	Date	Meeting	Category	Jurisdiction	Description
1	April 3, 2012	Resource Agencies	AS		Reviewed Palmdale to Sylmar SAA.
2	April 5, 2012	City of Los Angeles	AS	Los Angeles	Provided Revised 2012 Business Plan and statewide and P-LA section update.
3	April 6, 2012	Vista Canyon Project Team	STO	Santa Clarita	Provided P-LA section update
4	April 10, 2012	Shadow Hills Property Owners Association	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
5	April 11, 2012	Santa Clarita Sunrise Rotary Club	GIO	Santa Clarita	Provided Revised 2012 Business Plan, statewide and P-LA section update
6	April 12, 2012	State Assemblymember Jeff Gorell Staff	EL	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
7	April 17, 2012	Arleta Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
8	April 17, 2012	Los Angeles Trade-Tech College	GIO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA and LA-A section update
9	April 18, 2012	Hollywood Hills West Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
10	April 18, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County	Provided update Palmdale to Sylmar Supplemental Alternatives Analysis
11	April 23, 2012	Central Hollywood Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
12	April 24, 2012	City of Palmdale	AS	Palmdale	Discussed alignment alternatives, station options, and engineering criteria.
13	April 26, 2012	U.S. Congressmember Howard Berman Staff	EL	Los Angeles	Discussion of station options, Palmdale to Sylmar alignments and vehicle
14	April 30, 2012	Burbank Airport	AS	Burbank	Reviewed station options.

No.	Date	Meeting	Category	Jurisdiction	Description
15	April 30, 2012	Van Nuys Neighborhood Council Executive Committee	STO	Los Angeles	Provided brief overview of Revised 2012 Business Plan, statewide and P-LA section update
16	April 30, 2012	Bob Hope Airport Meeting	STO	Burbank	Discussion of Buena Vista Station and possible connection to Bob Hope Airport
17	April 30, 2012	City of Burbank	AS	Burbank	Reviewed alignment through San Fernando Valley and station options.
18	May 1, 2012	City of Los Angeles (Councilmember Tom LaBonge)	EL	Los Angeles	Discussion of grade separations and SR-2 to Sylmar alignments
19	May 1, 2012	Kiwanis Club of Eagle Rock	GIO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
20	May 2, 2012	Greater Wilshire Neighborhood Council Transportation Committee	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
21	May 2, 2012	Lake Balboa Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
22	May 3, 2012	Studio City Neighborhood Council Transportation Committee	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
23	May 7, 2012	City of Burbank Councilmembers	EL	Burbank	Reviewed alignment through San Fernando Valley and station options.
24	May 9, 2012	U.S. Congressmember Brad Sherman Staff	EL	Los Angeles	Discussed station options and vehicle maintenance facility
25	May 9, 2012	Homeboy Industries	GIO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
26	May 9, 2012	Van Nuys Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
27	May 17, 2012	City of Burbank High-Speed Rail Subcommittee	EL	Burbank	Provided Revised 2012 Business Plan, statewide and P-LA section update
28	May 17, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County	Reviewed alignment alternatives.
29	May 19, 2012	Town of Acton/Aqua Dulce	AS	LA County	Monitored Acton/Aqua Dulce Rally for HSR P-LA section.
30	May 22, 2012	City of Los Angeles (Mayor Villaraigosa staff)	EL	Los Angeles	Provided update on grade separations in the City of Los Angeles, vehicle maintenance facility and station options

No.	Date	Meeting	Category	Jurisdiction	Description
31	May 22, 2012	City of Santa Clarita	AS	Santa Clarita	Prepared for Special Santa Clarita City Council Meeting.
32	June 5, 2012	Canoga Park Chamber of Commerce	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
33	June 8, 2012	Pinecrest Schools	GIO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
34	June 11, 2012	City of Santa Clarita	EL	Santa Clarita	Provided Revised 2012 Business Plan, statewide and P-LA section update.
35	June 13, 2012	City of Glendale	AS	Glendale	Reviewed alignment through San Fernando Valley.
36	June 13, 2012	Agua Dulce Councilmembers	EL	LA County	Monitored Agua Dulce Town Council Meeting for HSR P-LA section.
37	June 13, 2012	Los Angeles County Metropolitan Transportation Authority/Metrolink	AS	LA County	Monthly coordination call to discuss upcoming events in southern California.
38	June 14, 2012	Hollywood Chamber of Commerce	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
39	June 19, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County	Reviewed alignment through San Fernando Valley.
40	July 6, 2012	Senator Padilla Staff	EL	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
41	July 6, 2012	Disney	STO	Burbank	Provided P-LA section update and discussed interaction with Disney Project.
42	July 9, 2012	Mount Washington Homeowners Alliance	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update
43	July 10, 2012	VICA Transportation Committee	STO	Los Angeles	Provided update on the Revised 2012 Business Plan.
44	July 10, 2012	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Monthly coordination call to discuss upcoming events in southern California.
45	July 11, 2012	Vulcan Materials Company	STO	Los Angeles	Provided update on the Terminal Storage and Maintenance Facility, Branford Street station option and alignments adjacent to their Sun Valley site.
46	July 19, 2012	Valley Economic Alliance	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.

No.	Date	Meeting	Category	Jurisdiction	Description
47	July 19, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County	Reviewed alignment alternatives.
48	July 25, 2012	City of Palmdale	AS	Palmdale	Discussed station options.
49	July 26, 2012	L.A. River Watershed	PWG	LA County	Discussed CHSRA role as new member of the LA River Watershed Urban Waters Partnership.
50	July 30, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County	Reviewed alignment alternatives.
51	August 1, 2012	Granada Hills Chamber of Commerce	GIO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.
52	August 1, 2012	Native American Advisory Committee	STO	Los Angeles	Provided update to the committee on all Southern California alignment alternatives and cultural resources.
53	August 14, 2012	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Monthly coordination call to discuss upcoming events in southern California.
54	August 13, 2012	Hollywood Studio District Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.
55	August 13, 2012	Silver Lake Neighborhood Council Transportation Committee	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.
56	August 16, 2012	Downtown Los Angeles Neighborhood Council Transit Forum	STO	Los Angeles	Staffed an information booth to introduce the Project to interested stakeholders, and briefed the Council on specific updates on the P-LA and LA-A sections.
57	August 16, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County	Reviewed alignment alternatives.
58	August 21, 2012	LADWP	AS	LA County	Provided project overview and discussed alignment alternatives.
59	August 21, 2012	Glassell Park Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update to 18 stakeholders.
60	August 22, 2012	City of Burbank High-Speed Rail Subcommittee	EL	Burbank	Provided project update and discussed station options.
61	August 28, 2012	Congressman Schiff Staff	EL	Los Angeles	Provided an update to Congressman's staff on Revised 2012 Business Plan and alignment alternatives

No.	Date	Meeting	Category	Jurisdiction	Description
					and station options within district.
62	August 29, 2012	Burbank Kiwanis Club	GIO	Burbank	Provided Revised 2012 Business Plan, statewide and P-LA section update.
63	August 30, 2013	LA River Project Workshop	PWG	LA County	Discussed future plans for the LA River and possible interface points with the High-Speed Rail alignment alternatives.
64	September 5, 2012	Citizens Committee to Save Elysian Park	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.
65	September 6, 2012	Echo Park Improvement Association	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.
66	September 13, 2012	Glassell Park Improvement Association Briefing	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.
67	September 18, 2012	Greater Cypress Park Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.
68	September 20, 2012	Foothill Trails District Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.
69	October 3, 2012	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County	Reviewed alignment alternatives.
70	October 4, 2012	Lincoln Heights Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.
71	October 10, 2012	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Monthly coordination call to discuss upcoming events in southern California.
72	October 11, 2012	Atwater Village Neighborhood Council	STO	Los Angeles	Provided Revised 2012 Business Plan, statewide and P-LA section update.
73	November 6, 2012	Southern California Association of Governments	AS	LA County	Discussed grade-crossing analysis and modeling issues.
74	November 14, 2012	Residents of Red Rover Mine (Acton)	STO	Acton	Discussed concerns related to the alignment alternatives and statewide Project issues.
75	December 18, 2012	City of Palmdale	AS	Palmdale	Reviewed alignment alternatives through Palmdale and station locations.
76	December 19, 2012	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Monthly coordination call to discuss upcoming events in southern California.
77	January 8, 2013	City of Palmdale	AS	Palmdale	Reviewed alignment alternatives through

No.	Date	Meeting	Category	Jurisdiction	Description
					Palmdale and station locations.
78	January 14, 2013	Los Angeles County Supervisor Antonovich staff	EL	Los Angeles	Participated in a discussion with Supervisor Antonovich staff members.
79	January 17, 2013	Burbank Airport	AS	Burbank	Provided project update and discussed alignment alternatives and station options.
80	January 25, 2013	Cascades Development	STO	Los Angeles	Discussed the Cascades development project and reviewed alignment alternatives through Sylmar.
81	January 28, 2013	City of Los Angeles Ad Hoc River Committee	AS	Los Angeles	Attended the Planning and Land Use Management Committee Meeting to monitor the Cornfield Arroyo Seco Specific Plan presentation.
82	January 29, 2013	City of Los Angeles Planning and Land Use Management Committee	EL	Los Angeles	Attended the Planning and Land Use Management Committee Meeting to monitor the Cornfield Arroyo Seco Specific Plan presentation.
83	February 12, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Monthly coordination call to discuss upcoming events in southern California.
84	February 22, 2013	City of Sand Canyon/Santa Clarita	AS	Santa Clarita	Participated in a briefing and toured the Sand Canyon area.
85	February 28, 2013	Congressman McKeon Staff	EL	Los Angeles	Provided an update on the Palmdale to Los Angeles section.
86	March 5, 2013	Supervisor Antonovich- Acton Auralization	EL	Los Angeles	Provided a sound demonstration for three locations in Acton.
87	March 12, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Discussed preparations for the upcoming Metro/Metrolink Meeting, new recurring Palmdale to Los Angeles section working group meetings and feedback from the Sand Canyon/Santa Clarita Alignment Tour.
88	March 13, 2013	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County	Provided an update on the TSMF and station options and alignments through the San Fernando Valley. Metro

No.	Date	Meeting	Category	Jurisdiction	Description
					provided an update on planning for Union Station and High Desert Corridor.
89	April 3, 2013	USMP/CHSRA Working Session	AS	LA County	Presented alignment alternatives for the Community Workshops.
90	April 5, 2013	Senator Knight Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
91	April 9, 2013	Senator Pavley Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
92	April 9, 2013	Congressman Schiff Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
93	April 9, 2013	Assemblyman Wilk Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
94	April 9, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Monthly coordination call to discuss upcoming events in southern California.
95	April 15, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Discussed with Metro new stakeholder working groups for the San Fernando Valley and Northeast Los Angeles/Downtown Los Angeles communities.
96	April 16, 2013	Assemblyman Gatto Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section to Assemblyman Gatto's staff member, Jason Insalaco.
97	April 16, 2013	Congresswoman Chu Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section to Congresswoman Chu's staff member, Becky Cheng.
98	April 18, 2013	Los Angeles County Metropolitan Transportation	AS	LA County	Discussed coordination between the High Desert

No.	Date	Meeting	Category	Jurisdiction	Description
		Authority/City of Palmdale/Caltrans			Corridor project and the California High-Speed Rail Project. Specifically discussed alignment alternatives, station and facility locations and Palmdale Transportation Center circulation.
99	April 25, 2013	City of Burbank Staff	AS	Burbank	Provided project update and discussed station options.
100	April 25, 2013	Senator Padilla Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
101	April 25, 2013	Senator Liu Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
102	April 25, 2013	Congressman Sherman Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
103	April 26, 2013	Los Angeles County Metropolitan Transportation Authority /Metrolink	AS	LA County	Discussed grade separations in the San Fernando Valley and updates on the TSMF location.
104	May 7, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Participated in the High Desert Corridor technical briefing to discuss engineering of the high-speed rail connection in Palmdale.
105	May 8, 2013	Congressman Cárdenas Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
106	May 16, 2013	City of Palmdale	AS	Palmdale	Provided updates on the Revised SAA, High Desert Corridor connection, UP discussions and Rancho Vista Boulevard grade separation.
107	May 20, 2013	Congressman Becerra Staff	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
108	May 30, 2013	San Fernando Valley Technical Working Group	AS	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on

No.	Date	Meeting	Category	Jurisdiction	Description
					the Palmdale to Los Angeles section to the City of LA (San Fernando Valley) Technical Working Group and discussed grade separations and station options.
109	June 6, 2013	Assemblyman Gomez Staff Briefing	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
110	June 6, 2013	Assemblyman Perez Staff Briefing	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section.
111	June 11, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Discussed preparations for the upcoming City of Los Angeles (SR134-LAUS) Technical Working Group Meeting on June 14, the next SFV Technical Working Group meeting in July/August, and an update on the SAA.
112	June 14, 2013	SR134-LAUS Technical Working Group	AS	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the Palmdale to Los Angeles section and discussed alignments alternatives studied in the Preliminary Alternatives Analysis and Supplemental Alternatives Analysis, interaction with LA River Projects and coordination efforts with resource agencies and rail partner groups.
113	July 9, 2013	Los Angeles County Metropolitan Transportation Authority	AS	LA County	Discussed preparations for the upcoming City of Los Angeles (San Fernando Valley) Technical Working Group Meeting on July 12 and upcoming outreach in the Palmdale to Sylmar subsection.
114	July 12, 2013	San Fernando Valley Technical Working Group	AS	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on

No.	Date	Meeting	Category	Jurisdiction	Description
					the Palmdale to Los Angeles section. Items discussed included LA City projects, specifically a bike path project along San Fernando Road, and grade separations in the San Fernando Valley.
115	July 19, 2013	Los Angeles Mayor Garcetti Staff Briefing	EL	Los Angeles	The Palmdale to Los Angeles Project Team provided an update on the California High-Speed Rail Project Southern California Sections to Los Angeles Mayor Garcetti's transportation staff.
116	August 13, 2013	Los Angeles County Metropolitan Transportation Authority	AS	Los Angeles	Continue to coordinate with Metro regarding outreach activities with key stakeholders.
117	August 22, 2013	Los Angeles County Public Works	AS	Los Angeles	Provided an overview of the Palmdale to Los Angeles project, including an update on the status of the environmental process and key issues in various areas along the alignment alternatives.
118	September 12, 2013	Central City Association Transportation, Infrastructure and Energy Committee	STO	Los Angeles	Provided an overview of the project, including the transportation improvements that are coming to Southern California and the next steps in the project.
119	September 18, 2013	Assemblyman Fox Briefing	EL	Los Angeles	Provided an overview of the Palmdale to Los Angeles project, including an outline of outreach efforts, refinements to the project in response to stakeholder concerns and upcoming milestones, including the release of the SAA and the October 14 board meeting in Los Angeles.
120	September 19, 2013	SR134-LAUS Technical Working Group	AS	Los Angeles	Provided an update on the Palmdale to Los Angeles project and the interface with the Riverside Drive Bridge

No.	Date	Meeting	Category	Jurisdiction	Description
					project, the Cornfield Area Specific Plan, the Los Angeles River plans (including the recently released U.S. Army Corps of Engineers Los Angeles River Ecosystem Restoration Integrated Feasibility Report. Metro also provided an update on its Southern California Regional Interconnector Project (SCRIP, formerly known as the Union Station Run-Through Tracks).
121	October 1, 2013	LA County of Public Works Meeting	AS	Los Angeles	Provided a follow-up to the previous meeting. CHSRA gave an overview of the project, focused on the Alternative Analysis process and the conceptual plans. LA County DPW mentioned concern over interference with storm drains by the HSR proposed alignments. CHSRA and LA County DPW discussed upcoming County projects and planned for future coordination.
122	October 1, 2013	City of Burbank Meeting	AS	Burbank	Provided an update on the project, focused on the Alternative Analysis process and the conceptual plans. CHSRA and City of Burbank staff discussed the land uses around the possible station location and potential connections to the Airport.
123	October 2, 2013	Supervisor Antonovich Quarterly Transportation Summit	PIM	Palmdale	Provided an update on the project, focused on the Alternative Analysis process.
124	October 4, 2013	City of Santa Clarita	AS	Santa Clarita	Provided a heads-up on the upcoming Board meeting and an update on the project, focused on the Alternative Analysis process and the conceptual plans

No.	Date	Meeting	Category	Jurisdiction	Description
					throughout the alignment, particularly as it would relate to Santa Clarita. CHSRA and City of Santa Clarita staff discussed logistical and technical issues related to the alignments in that area, including the tunnel alternative.
125	October 8, 2013	Supervisor Antonovich's Staff Briefing	AS	Los Angeles	Provided an update on the project, focused on the Alternatives Analysis process and the conceptual plans. CHSRA also explained the outreach process that is underway and to be maintained through the Alternatives Analysis and environmental review process as it relates to constituents within the Supervisor's district.
126	October 8, 2013	Railway Association of Southern California	GIO	Fullerton	Provided an overview of the project, including the transportation improvements that are coming to Southern California and the next steps in the project.
127	October 9, 2013	City of Palmdale Meeting	AS	Palmdale	Provided a heads-up on the upcoming Board meeting and an update on the project, focused on the Alternative Analysis process and the conceptual plans throughout the alignment, particularly as it would relate to Palmdale. CHSRA and City of Palmdale staff discussed logistical and technical issues related to the alignments in that area, including integration with the Palmdale Transportation Center, maintenance facility options and Sierra Highway. CHSRA and City staff agreed that it would be beneficial to coordinate with other agencies and parties

No.	Date	Meeting	Category	Jurisdiction	Description
					related to planning for the PTC, HDC and XpressWest.
128	October 17, 2013	Palmdale/Santa Clarita Legislative Briefing	AS	Los Angeles	Provided an update on the project, focused on the Alternatives Analysis process and the conceptual plans. CHSRA also explained the outreach process that is underway and to be maintained through the Alternatives Analysis and environmental review process as it relates to constituents within these members' areas.
129	October 21, 2013	City of San Fernando Meeting	AS	San Fernando	Provided an update on the project, focused on the Alternatives Analysis process and the conceptual plans. CHSRA also explained the outreach process that is underway and to be maintained through the Alternatives Analysis and environmental review process. The City of San Fernando was interested to learn that the San Fernando Station may be eliminated, expressed some concern about the at-grade alignment and requested continued coordination as the planning moves forward related to the alignment through their city.
130	October 23, 2013	City Councilmember Fuentes Staff Briefing	AS	Los Angeles	Provided an update on the project, focused on the Alternatives Analysis process and the conceptual plans. CHSRA also explained the outreach process that is underway and to be maintained through the Alternatives Analysis and environmental review process. The Councilmember's staff asked questions regarding the interface with Metro's East San

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					Fernando Valley project and encouraged CHSRA to brief the Los Angeles City Council Transportation Committee at the appropriate time.
131	October 23, 2013	City Councilmember Huizar Staff Briefing	AS	Los Angeles	Provided an update on the project, focused on the Alternatives Analysis process and the conceptual plans. CHSRA also explained the outreach process that is underway and to be maintained through the Alternatives Analysis and environmental review process. The Councilmember's staff noted that the Arts District is really developing rapidly and the stakeholders in the Arts District and Little Tokyo are very interested in development in their area. The staff also suggested meeting with Paul Backstrom in Councilmember Bonin's office (Bonin serves on the Metro board and as chair of the Los Angeles City Council Transportation Committee)
132	October 23, 2013	City Councilmember Martinez Staff Briefing	AS	Los Angeles	Provided an update on the project, focused on the Alternatives Analysis process and the conceptual plans. CHSRA also explained the outreach process that is underway and to be maintained through the Alternatives Analysis and environmental review process. The Councilmember's staff asked about the potential impacts and operations in the San Fernando Valley.
133	October 24, 2013	SR134-LAUS Legislative Briefing	AS	Los Angeles	Provided an update on the project, focused on

No.	Date	Meeting	Category	Jurisdiction	Description
					<p>the Alternatives Analysis process and the conceptual plans. CHSRA also explained the outreach process that is underway and to be maintained through the Alternatives Analysis and environmental review process as it relates to constituents within these members' areas. Staff asked questions about timing, costs, interconnectivity with other transit systems and inter-agency coordination, particularly related to the U.S. Army Corps of Engineers Los Angeles River plans and the Union Station Master Plan process. They also asked about the general progress on the project, including construction in the Central Valley.</p> <p>Several staffers noted that there are a number of big projects all being planned at the same time (including the river plans, Union Station, SR710, etc.)</p>
134	October 25, 2013	WTS-LA Career Day	GIO	Los Angeles	Provided an overview of the project, including the transportation improvements that are coming to Southern California and the next steps in the project.
135	October 29, 2013	Mobility 21	AS	Los Angeles	Provided an overview of the project, including the transportation improvements that are coming to Southern California and the next steps in the project.
136	October 30, 2013	Sylmar/San Fernando Legislative Briefing	AS	Los Angeles	Provided an update on the project, focused on the Alternatives Analysis process and the conceptual plans. CHSRA also explained the outreach process that is underway and to be

No.	Date	Meeting	Category	Jurisdiction	Description
					maintained through the Alternatives Analysis and environmental review process as it relates to constituents within these members' areas. Staff asked questions about timing, costs, interconnectivity with other transit systems and inter-agency coordination, particularly related to the U.S. Army Corps of Engineers Los Angeles River plans and the Union Station Master Plan process. They emphasized the importance of broad and diverse outreach to the constituents in their areas.
137	October 30, 2013	City Councilmember LaBonge Briefing	AS	Los Angeles	Provided an update on the project, focused on the Alternatives Analysis process and the conceptual plans. CHSRA also explained the outreach process that is underway and to be maintained through the Alternatives Analysis and environmental review process. Councilmember asked about timing, costs, interconnectivity with other transit systems and inter-agency coordination, particularly related to the U.S. Army Corps of Engineers Los Angeles River plans and the Union Station Master Plan process.
138	November 5, 2013	US High Speed Rail Association Conference	AS	Los Angeles	Staffed the CHSRA booth, answered questions from attendees, took pictures and videos for Authority use on social media, distributed fact sheets
139	November 13, 2013	Councilmember Krekorian Briefing	AS	Los Angeles	Provided an update on the project, focused on the Alternatives Analysis process and the conceptual plans. CHSRA

No.	Date	Meeting	Category	Jurisdiction	Description
					also explained the outreach process that is underway and to be maintained through the Alternatives Analysis and environmental review process.
140	November 13, 2013	LA County of Public Works Meeting	AS	Los Angeles	CHSRA, LA County DPW and LADWP discussed the HSR proposed alignments and design, particularly as they relate to existing and planned DPW and DWP projects in the Sun Valley area, near Tuxford Street.
141	November 14, 2013	AV Board of Trade Transportation Committee	GIO	Palmdale	Provided an overview of the project, including the transportation improvements that are coming to Southern California and the next steps in the project.
142	November 21, 2013	LA Union Station Master Plan Coordination Meeting	AS	Los Angeles	Coordinated with Metro regarding HSR interface with planned improvements at Union Station.
143	November 26, 2013	Update Conference Call with Key Stakeholders Regarding Recent Lawsuits	AS	Los Angeles	Provided an overview to key stakeholders regarding recent rulings: Tos lawsuit and Validation action on \$8 billion HSR Prop 1a outlay. Noted that the project will continue to move forward.
144	December 3, 2013	ASCE LA Chapter Meeting	GIO	Los Angeles	Provided an overview of the project, including the transportation improvements that are coming to Southern California and the next steps in the project.
145	December 3, 2013	L.A. River Meeting (Mayor Garcetti staff, other stakeholders)	AS	Los Angeles	Coordinated with Mayor's office and other stakeholders related to the Los Angeles River.
146	December 4, 2013	Palmdale Water District Meeting	AS	Palmdale	CHSRA and Palmdale Water District reviewed the potential alignments and possible interface with PWD facilities, particularly Lake Palmdale. CHSRA and PWD agreed to continue

No.	Date	Meeting	Category	Jurisdiction	Description
					to coordinate as planning moves forward to minimize impacts on PWD facilities and operations.
147	December 13, 2013	City of Burbank Engineering & Planning Staff	AS	Burbank	CHSRA and the City of Burbank Engineering staff discussed the status and progress of Burbank's planned bridge work at Burbank Blvd and Magnolia Ave, including potential interface with HSR
148	December 20, 2013	Assemblymember Bloom Briefing	EL	Los Angeles/Santa Monica	CHSRA, the Assemblymember and staff discussed the status of the project and the ongoing outreach activities. The Assemblymember provided his suggestions on additional outreach and requested an alignment tour.
149	January 7, 2014	Palmdale Station Area Planning Meeting	AS	Palmdale	CHSRA and City of Palmdale staff reviewed key concepts related to station area planning and discussed the existing and potential grants that the City is using for these purposes.
150	January 7, 2014	City of Glendale Briefing	AS	Glendale	CHSRA provided an update on the status of the project, including the 2012 Business Plan, the construction activities in the Central Valley and the revised SAA that had been developed last fall with the IOS concept into the Central Valley. The City of Glendale staff were particularly interested in the progress of construction and timeline for the project in Southern California.
151	January 29, 2014	City of Palmdale Coordination Meeting	AS	Palmdale	CHSRA and City of Palmdale staff reviewed key concepts related to alignment planning and emphasized avoiding the Union Pacific Right-of-

No.	Date	Meeting	Category	Jurisdiction	Description
					Way.
152	January 31, 2014	Councilmember Mike Bonin Staff Briefing	EL	Los Angeles	CHSRA provided an overview of the project, current alignments and public outreach activities, as well as a look-ahead to next steps in the environmental process.
153	February 3, 2014	Sun Valley Watershed Call	AS	Los Angeles	Discussion regarding CHSRA efforts to minimize/eliminate impacts to LA County Department of Public Works Sun Valley Watershed projects by adjusting the alignment design to eliminate need for redesign of project(s) underway.
154	February 5, 2014	Santa Clarita Stakeholder Working Group Meeting	STO	Santa Clarita	CHSRA provided an overview of the project and current alignments, as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process. The community members provided their feedback on the alignments and asked questions related to funding, timing and alignment design.
155	February 6, 2014	San Fernando Valley Stakeholder Working Group Meeting	STO	San Fernando	CHSRA provided an overview of the project and current alignments, as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process. The community members provided their feedback on the alignments and expressed an interest in making sure the alignments are the least impactful to the northern San Fernando Valley.

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156	February 6, 2014	Burbank-Glendale Stakeholder Working Group Meeting	STO	Burbank	CHSRA provided an overview of the project and current alignments, as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process. The community members provided their feedback on the alignments.
157	February 11, 2014	High Desert Corridor HSR Coordination Meeting	AS	Los Angeles	CHSRA, Metro and Caltrans discussed the interface between High-Desert Corridor, the 14 Freeway, UP and HSR, including possible options for integrating them safely.
158	February 13, 2014	Acton/Aqua Dulce Stakeholder Working Group Meeting	STO	Acton	CHSRA provided an overview of the project and current alignments, as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process. The community members provided their feedback on the alignments and expressed an interest in the option of going straight to Burbank with the least impact on Acton/Aqua Dulce.
159	February 26, 2014	Councilmember Jose Huizar Staff Briefing	EL	Los Angeles	CHSRA provided an overview of the project and current alignments, as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process. CHSRA also provided update on the litigation and emphasized that it's moving forward.
160	March 4, 2014	Downtown LA Stakeholder Working Group Meeting	AS	Los Angeles	CHSRA provided an overview of the project and current alignments,

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					as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process. The community members provided their feedback on the alignments.
161	March 4, 2014	Northeast LA Stakeholder Working Group Meeting	STO	Los Angeles	CHSRA provided an overview of the project and current alignments, as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process. The community members provided their feedback on the alignments.
162	March 5, 2014	SFVCOG Mobility Summit	GIO	Burbank	CHSRA hosted a booth at the convention to provide fact sheets and other information on the project to attendees.
163	March 12, 2014	Briefing for Congressman McKeon Staff	EL	Santa Clarita	CHSRA provided an overview of the project and current alignments, as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process.
164	March 12, 2014	Meeting at City of Santa Clarita	AS	Santa Clarita	CHSRA provided an overview of the project and current alignments, as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process. Mayor Pro Tem McLean and Councilmember Boydston expressed appreciation regarding the possible elimination of the second above-grade option (SCN-1), as well as interest in the

No.	Date	Meeting	Category	Jurisdiction	Description
					possibility of the Burbank Direct alternative.
165	March 14, 2014	Briefing for Congresswoman Hahn Staff	EL	Los Angeles	CHSRA provided an overview of the project and current alignments, as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process.
166	March 28, 2014	MoveLA Transportation Conversation Event	GIO	Los Angeles	CHSRA staffed a table, provided information and answered questions from attendees
167	April 2-3, 2014	CA Passenger Rail Forum	GIO	Los Angeles	CHSRA staffed a table, provided information and answered questions from attendees
168	April 7, 2014	HSR Presentation to Santa Monica Chamber of Commerce's Govt. Affairs Committee	GIO	Santa Monica	CHSRA provided an overview of the project, including the need for transportation options in California and explained how connectivity projects are underway with other agencies. CHSRA concluded by noting that the next steps include planning for an integrated rail network, exploration of funding options, and environmental analysis.
169	April 8, 2014	Briefing for Assemblymember Mike Gatto's Staff	EL	Burbank	CHSRA provided an overview of the project and current alignments, as well as the proposed alignment refinements that are being developed in the SAA and also outlined the upcoming public outreach and environmental process.
170	April 14, 2014	Briefing for Senator Carol Liu's Staff	EL	Glendale	CHSRA provided an overview of the project and current alignments, as well as the cap and trade program and SCRIP, and also outlined the upcoming public outreach and environmental process.

No.	Date	Meeting	Category	Jurisdiction	Description
171	April 15, 2014	Briefing for Senator Alex Padilla's Staff	EL	Van Nuys	CHSRA provided an overview of the project and current alignments, as well as on rail modernization, connectivity, and MOV projects, and also outlined the upcoming public outreach and environmental process.
172	April 15, 2014	City of Los Angeles San Fernando TWG	TAG/TWG	Van Nuys	CHSRA provided an overview of the project and current alignments, particularly focusing on the importance of grade separations, and outlined the upcoming public outreach and environmental process.
173	April 16, 2014	Briefing for Assemblymember Steve Fox	EL	Palmdale	CHSRA provided an overview of the project and current alignments, particularly updating on the construction contracts, and outlined the upcoming public outreach and environmental process.
174	April 24, 2014	Briefing for Senator Tony Cardenas and Assemblymember Raul Bocanegra's Offices	EL	Los Angeles	CHSRA provided an overview of the project and current alignments, particularly updating on the state modernization plan, and outlined the upcoming public outreach and environmental process.
175	May 3, 2014	National Train Day	P	Los Angeles	CHSRA staffed a table, provided information and answered questions from attendees.
176	May 5, 2014	Acton / Agua Dulce Workshop	STO	Acton	CHSRA and stakeholders collaborated on discussing the various alignments. Community members gave suggestions on preferred routes, location of wells, and general topography.
177	May 5, 2014	San Fernando City Council - Public Comment	EL	San Fernando	E. Rosenson announced the upcoming community meetings in the City of San Fernando and throughout the alignment at the City Council meeting during the

No.	Date	Meeting	Category	Jurisdiction	Description
					public comment period.
178	May 6, 2014	Briefing for Burbank City Council	EL	Burbank	CHSRA provided an update on the project, next steps and the upcoming community meetings to the Burbank City Council.
179	May 13, 2014	Briefing for Councilmember Felipe Fuentes' Staff	EL	Los Angeles	CHSRA provided an update on the project, discussed the upcoming meetings and discussed the Councilmember's concerns regarding grade separations and alignments through his District in the San Fernando Valley.